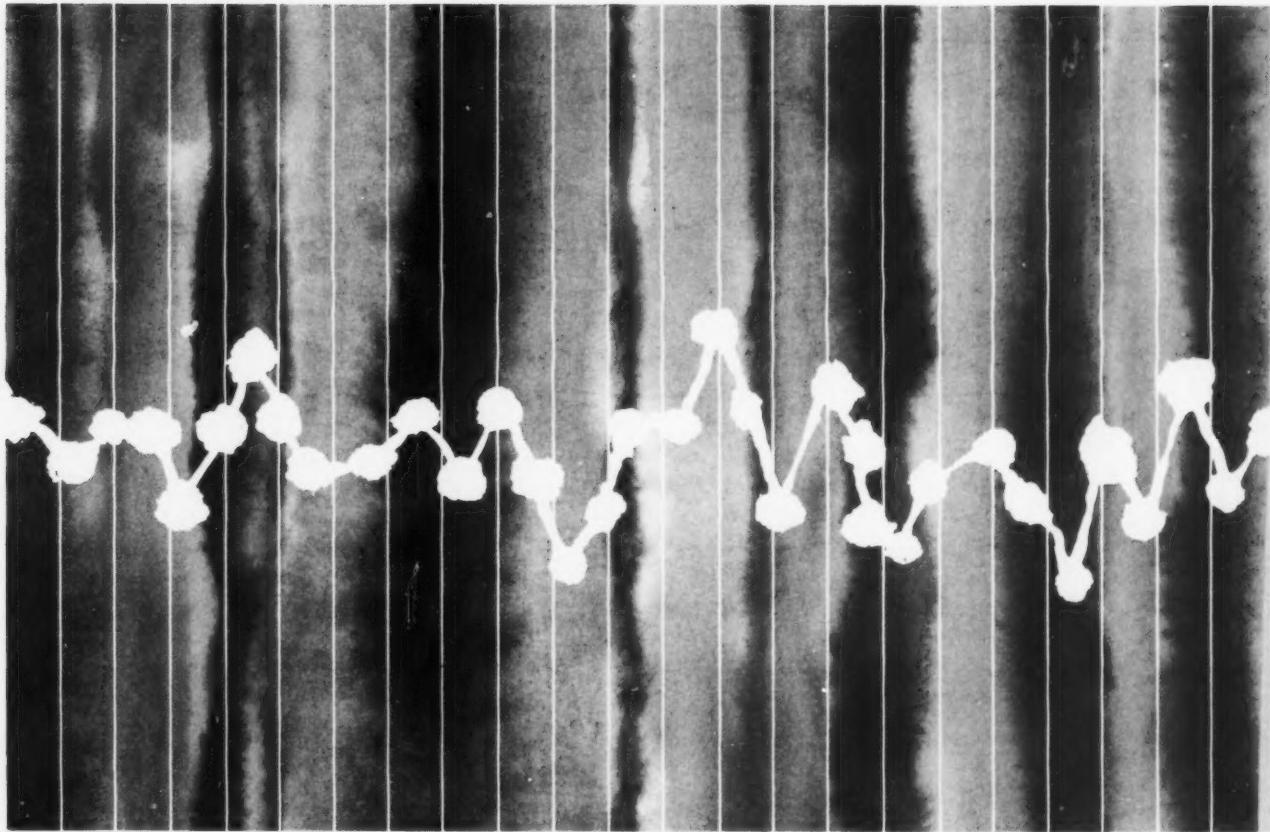


defense indicators

JANUARY 1974



U.S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF ECONOMIC ANALYSIS



This report was prepared in the Statistical Indicators Division, Bureau of Economic Analysis. Technical staff and their responsibilities for the publication are—

Barry A. Beckman—Technical supervision and review,

Morton Somer—Selection of seasonal adjustment methods,

Betty F. Tunstall—Collection and compilation of basic data.

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This publication is prepared under the general guidance of an interagency committee established by the Office of Management and Budget. This committee consists of the following persons:

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**Murray F. Foss, Council of Economic Advisers, Executive
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**Rose Glubin, Office of Assistant Secretary of Defense
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**Cornelia Motheral, Board of Governors of the Federal
Reserve System**

**Charles Waite, Bureau of Economic Analysis, Department
of Commerce**

Introduction

The purpose of this monthly report is to bring together the principal time series on defense activity which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. Most are monthly but a few quarterly series are included. The series numbers used are for identification purposes only and do not reflect relationships or order.

Classification of Series

Chart 1 compares Government purchases of goods and services for national defense with total gross national product. GNP is the market value of the final output of goods and services produced by the Nation's economy and represents a very broad measure of aggregate economic activity. In addition to national defense purchases, it includes Federal Government purchases of goods and services for nondefense purposes, State and local government purchases, personal consumption expenditures, gross private domestic investment, and net exports of goods and services. Chart 1 also presents national defense purchases as a percent of gross national product and, for both series, changes from the previous quarter.

A related group of series is shown in Chart 4, "Defense-Related Balance of Payments Components." These series show the effects of defense-related economic activity on the balance of payments accounts.

The remaining series are grouped in accordance with the time at which the activities they measure occur within the defense order-production-delivery process. Those series measuring activities that usually precede production, such as new orders placed with defense products industries and contract awards, are presented in Chart 2, "Advance Indicators of Defense Activity." Chart 3, "Intermediate and Final Indicators of Defense Activity," presents series that measure activities which tend to move at the same time as production (such as employment) and activities which usually follow production (such as shipments).

Series Included

Following is a list of the series as they appear in charts 1, 2, 3, and 4 (the source agencies are abbreviated in parentheses; detailed lists of sources for charts 1, 2, and 3 appeared as appendixes to the August and October 1968 issues of this report).

Gross National Product and National Defense Purchases

Gross national product (BEA)
Federal Government purchases of goods and services, national defense (BEA)
National defense purchases as a percent of gross national product (BEA)
Gross national product, changes from previous quarter (BEA)
National defense purchases, changes from previous quarter (BEA)

Advance Indicators of Defense Activity

Defense Department gross obligations incurred, total (DOD)
Defense Department gross obligations incurred, procurement (DOD)
Gross obligations incurred outside the Government for national defense (Treasury)

Defense Department military prime contract awards for work performed in the United States (DOD)

Defense Department gross unpaid obligations outstanding (DOD)

Manufacturers' new orders (Census):

 Defense products industries

 Defense products

Manufacturers' new orders from the U.S. Government, aerospace industries (Census):

Average weekly overtime hours, production workers, defense products industries (BLS)

Accessions, defense products industries (BLS)

Layoffs, defense products industries (BLS)

Intermediate and Final Indicators of Defense Activity

Manufacturers' inventories (Census):

 Defense products industries

 Defense products

Manufacturers' unfilled orders (Census):

 Defense products industries

 Defense products

Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)

Defense Department progress payments outstanding (DOD)

Employment in defense products industries, total (BLS)

Employment in defense products industries, production workers (BLS)

Index of aggregate weekly man-hours, defense products industries (BLS)

Index of aggregate weekly payrolls, production workers, defense products industries (BLS)

Defense Department manpower, military (DOD)

Defense Department manpower, civilian (DOD)

Defense Department net outlays, total, military functions and military assistance (DOD)

Defense Department net outlays, procurement (DOD)

Budget outlays for the national defense function (Treasury)

Defense Department personnel compensation (DOD)

Manufacturers' shipments (Census):

 Defense products industries

 Defense products

Manufacturers' shipments to the U.S. Government, aerospace industries (Census):

Ratio, manufacturers' unfilled orders to shipments (Census):

 Defense products industries

 Defense products

Ratio, manufacturers' inventories to shipments (Census):

 Defense products industries

 Defense products

Defense-Related Balance of Payments Components

Transfers under U.S. military agency sales contracts—exports (BEA)

Direct defense expenditures—imports (BEA)

U.S. Government cash receipts associated with military sales contracts (BEA)

Some additional data are included in the tables though not presented in the charts. These include Defense Department military prime contract awards by procurement category (e.g., for aircraft, missiles and space systems, ships, weapons, and ammunitions), the operations component of Defense Department

gross obligations incurred, gross unpaid obligations outstanding, and net outlays and the procurement component of gross unpaid obligations outstanding.

Description of Basic Data

The Department of Defense compiles statistics on obligations, contract awards, personnel compensation, and outlays. The DOD obligations and outlays data are based on the Defense Department's monthly *Status of Funds* report which is developed from accounting data and is designed to provide information on the total status of Defense Department financing. Accounts included in this report are aggregated by appropriation categories including personnel costs, operations and maintenance, procurement, research and development, and construction. The *Status of Funds* report duplicates some obligations. That is, obligations of one government unit to another unit are not netted out.

The Defense Department's *Contract Awards* report covers the awarding of procurement contracts. These include obligations for operating and maintenance supplies, equipment and services, research and development, and construction in addition to the obligations for items that constitute the fiscal "procurement" category. The statistics are aggregated by commodity categories including aircraft, missile and space systems, ships, weapons, ammunition, electronics and communication equipment, fuels, and textiles and clothing. The *Contract Awards* report includes procurement for NASA, other nondefense agencies, and the Foreign Military Sales Program which are not included in the *Status of Funds* report.

The Census quarterly new orders, unfilled orders and shipments series for "aerospace industries" are based on reports of companies classified into the following industry categories:

Industry	SIC Code
Aircraft and parts	372
Guided missiles and space vehicles, completely assembled	1925

The Census and BLS data for "defense products industries" presented in this report cover companies and establishments¹ classified into the following industry categories in accordance with the *Standard Industrial Classification Manual*, 1967 edition, Executive Office of the President, Bureau of the Budget:

Industry	SIC Code
Ordnance and accessories	19
Communication equipment	366
Aircraft and parts	372

Establishments reporting to the BLS are classified into industries on the basis of their principal product or activity as determined from information on annual sales volume, which is collected each year on a supplement to the monthly report. The entire employment of an establishment making more than one product or engaging in more than one activity is included under the industry accounting for the largest percentage of the annual sales of that establishment.

The Census Bureau's monthly survey is based primarily on reports at the company level and the monthly estimates are benchmarked to the establishment data from the *Annual Survey*

¹An establishment is a single physical location where business is conducted (e.g., a plant). A company often includes more than one establishment.

of Manufactures. Also, many of the large diversified companies file separate divisional reports monthly. Although the reports in the survey are also classified according to their principal product or activity, this difference in the organizational level from which reports are received results in firms being classified into different industries in the BLS and Census surveys and, consequently, limits somewhat the comparability of the data collected by these agencies. However, as we know from past studies in this area, some differences in industrial classification between BLS and Census data would remain even if reports came from the same organizational levels.

Both the Census and the BLS data include a significant amount of nondefense activities carried on by companies and establishments classified in the above industries. For example, the data cover the production of commercial as well as military aircraft. On the other hand, they exclude significant amounts of defense work carried on by companies and establishments classified in industries other than those listed above (e.g., the manufacture of military uniforms and the shipbuilding industry).²

Census data for "defense products" are based on separate reports on defense work filed by large defense contractors in the ordnance, communications, complete aircraft, aircraft parts, and shipbuilding industries. Thus, they differ from the "defense products industries" data in that they include defense activity in the shipbuilding industry and exclude nondefense work in the other industries covered. Defense products data cover work for the Department of Defense and exclude contracts for the National Aeronautics and Space Administration and the Atomic Energy Commission.

The DOD data are not strictly comparable in coverage with either the BLS or the Census data since the Defense Department figures (1) cover products of industries not included in the defense products category; (2) generally do not include non-defense activities (except that some series, such as contract awards, include activities by the Department of Defense on behalf of nondefense agencies); and (3) do not cover intermediate activities such as those related to subcontracting and supplying of parts. Thus, the Census Bureau data for manufacturers' new orders and shipments of defense products industries, for example, differ in coverage from the DOD contract awards and net outlays series.

The Department of Defense data are not comparable with Federal Government purchases of goods and services for national defense or the Treasury Department obligations and outlays data since the BEA and Treasury data cover defense-related activities of other agencies such as the Atomic Energy Commission, the Selective Service System, and the Office of Emergency Planning.

Projects to improve the comparability of the data collected by the Bureau of the Census, the Bureau of Labor Statistics, and the Department of Defense and to improve the separation of defense and nondefense activity for the Census and BLS data are being undertaken by the statistical agencies under the leadership of the Interagency Committee mentioned earlier in this report.

²See the Bureau of the Census publication *Shipments of Defense-Oriented Industries*, Current Industrial Reports, Series MA-175, for annual estimates of shipments by industry to the Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission. Included also are industries not covered by the "defense products industries" category.

6 SESA PROJECTS for economic analysis

BUSINESS CONDITIONS DIGEST A monthly report for analyzing economic fluctuations over a short span of years.

This report brings together approximately 600 economic time series in a form convenient for analysts whether their approach to the study of current business conditions and prospects is the national income model, the leading indicators, anticipations and intentions, or a combination of these. Other types of data such as foreign trade, Federal Government activities, and international series are included to facilitate a more complete analysis.

Data are presented in charts and tables. Appendixes provide historical data, series descriptions, seasonal adjustment factors, and measures of variability. A computer tape containing data for most of the series is available for purchase.

DEFENSE INDICATORS A monthly report for analyzing the current and prospective impact of defense activity on the national economy.

This report brings together the principal time series on defense activities which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. The approximately 60 time series included are grouped in accordance with the time at which the activities they measure occur in the defense order-production-delivery process. Charts and analytical tables facilitate interpretation.

LONG TERM ECONOMIC GROWTH A report for the study of economic trends over a long span of years, 1860-1970.

This report has been developed from available statistics to provide a comprehensive, long-range view of the U.S. economy. It is a basic research document for economists, historians, investors, teachers, and students. It brings together under one cover, in meaningful and convenient form, the complete statistical basis for a study of long-term economic trends. A computer tape file of the time series included in the report is available for purchase.

COMPUTER PROGRAMS FOR TIME SERIES ANALYSIS The source statements for FORTRAN IV programs used by SESA in its analysis of time series are available on a single computer tape.

SEASONAL ADJUSTMENT PROGRAMS.—Two variants of the Census computer program for measuring and analyzing seasonal, trading-day, cyclical, and irregular fluctuations. They are particularly useful in analyzing economic fluctuations which take place within a year. The X-11 variant is used for adjusting monthly data and the X-11Q for quarterly data. These programs make additive as well as multiplicative adjustments and compute many summary and analytical measures.

DIFFUSION INDEX PROGRAM.—A computer program for computing diffusion indexes, cumulated diffusion indexes, and summary measures of the properties of each index.

SURVEY OF CURRENT BUSINESS A monthly report for analyzing current economic developments.

This report provides a useful combination of current data for more than 2,500 statistical series and significant articles analyzing economic developments. These data and analyses include such areas as the national income and product accounts, the balance of payments accounts, plant and equipment expenditures, regional personal income, and the input-output accounts.

BUSINESS STATISTICS A biennial reference volume containing statistical series reported currently in the *Survey of Current Business*.

This report provides historical data back to 1947 for nearly 2,500 time series. The series are accompanied by concise descriptions as to their composition, methods of compilation, comparability, revisions, and availability. Also listed are the names and addresses of organizations which provide the basic data for the series.

defense indicators

January 1974
Series ES4 No. 74-1

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Defense Indicators Price Increase

With this issue, the subscription price of **Defense Indicators** is increasing to \$11.00 per year (\$2.75 additional for foreign mailing). The new single copy price is 95 cents.

The Government Printing Office handles the printing and distribution of **Defense Indicators** and other Government publications, and it alone establishes the public sales prices. It has set the higher prices to cover the increasing costs of its operations, including higher postage rates.

The Bureau of Economic Analysis prepares **Defense Indicators** but has no role in determining its price and receives no revenue from its sale.

Variability of Data

Seasonal variations dominate the movements of many time series, and adjustments for average seasonal fluctuations are often necessary to bring out the underlying trends of the series. These seasonal adjustments allow for the effects of repetitive intrayear variations resulting primarily from normal differences in weather conditions and from various institutional arrangements. An additional adjustment is sometimes necessary for series which contain considerable variation resulting from the number of working or trading days in each month. As used in this report, the term "seasonal adjustment" includes trading-day adjustments where they have been made.

Most of the series in this report are shown in seasonally adjusted form. For Defense Department and BLS series, unadjusted data are also shown since they are not readily available elsewhere. Current seasonal adjustment factors are shown in appendix A.

The effect of seasonal adjustment in reducing the month-to-month variation in the data can be seen in appendix B. There, the first two columns show the average month-to-month percent change (without regard to sign) in the data before and after seasonal adjustment. Some series still show very irregular month-to-month movements after adjustment for seasonal variation. The measures in appendix B also indicate the month-to-month variation in the irregular and short-term trend components of the series. For many series, irregular movements tend to dominate 1- or 2-month comparisons, and the underlying short-term trend becomes dominant in comparisons over longer spans. The "months for cyclical dominance" (MCD) measure estimates the span of months required for the short-term trend to dominate the irregular component. Series with an MCD of 4 or more are supplemented with a moving average (with the

number of terms equal to MCD) in the charts. Data for these moving averages are listed in the basic data tables.

Guide to Charts and Tables

Most series are plotted on a standard ratio scale so that equal percent changes cover the same vertical distance. For these series, an increase of 100 percent covers approximately 1 inch. Arithmetic scales are used for series with zero or negative data, series which could approach zero (e.g., average overtime hours and layoff rate), and series expressed in percent.

In general, monthly data are plotted with a solid line and quarterly data are represented by a solid line with quarterly plot points. Quarterly series are also identified with a "Q" after their titles. For series which include a moving average, a dashed line is used for the actual monthly data and a solid line for the moving average. (The moving average values are centered within the span of months they are computed from.) Exceptions to this scheme may be necessary for special situations. Data apply to the whole period except for series designated "EOM" (end of month) or "EOQ" (end of quarter). The number in the box at the right of each series indicates the latest month (Arabic) or quarter (Roman) plotted. Parallel lines across a series indicate a break in continuity (e.g., data not available or change in series definition).

Tables 1, 2, 3, and 4 present current data for the series shown in the charts, including the moving averages. They also include unadjusted data for some series and data for related series which are not plotted. Table A summarizes the most recent data and percent changes for many of the series in the report. Historical data are shown on an intermittent basis in appendix C. (The index indicates the appropriate issue for each series.)

The February issue of DEFENSE INDICATORS is scheduled
for release on February 28.

Table A. Summary of Recent Data and Current Percent Changes for Principal Defense Indicators

(Preliminary and revised figures are not identified here but the user may consult tables 1, 2, 3, and 4 where such identification is given)

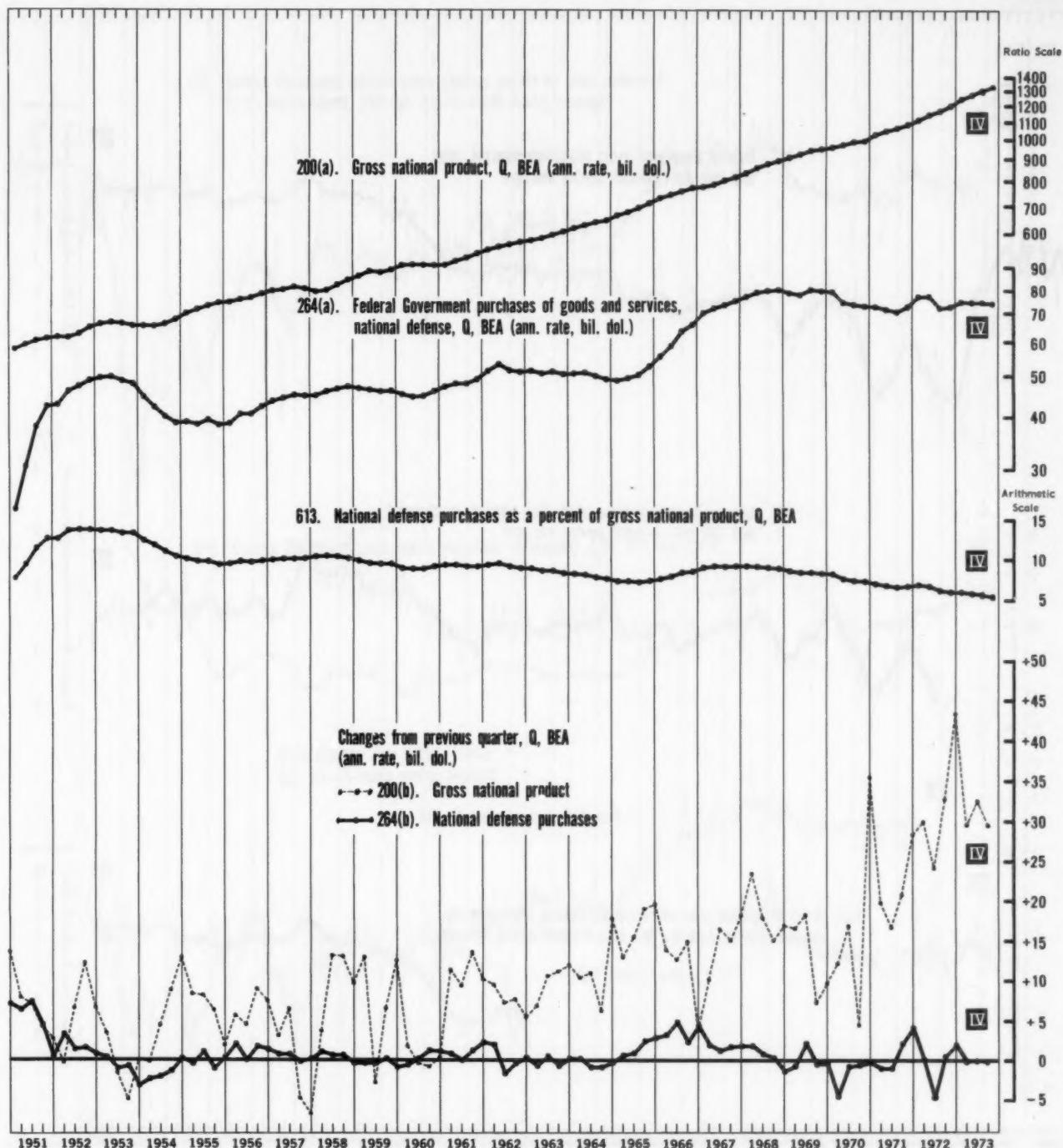
Series title	Unit of measure	Basic data								Percent change				Series number
		Average		2d Q 1973	3d Q 1973	4th Q 1973	Oct. 1973	Nov. 1973	Dec. 1973	Oct. 73 to Nov. 73	Nov. 73 to Dec. 73	2d Q '73 to 3d Q '73	3d Q '73 to 4th Q '73	
		1972	1973											
GROSS NATIONAL PRODUCT AND NATIONAL DEFENSE PURCHASES														
200. Gross national product (BEA).....	Ann. rate, bil. dol.	1155.2	1288.2	1272.0	1304.5	1334.0	...	...	...	...	...	2.6	2.3	200
264. Federal Government purchases of goods and services, national defense (BEA)	do	74.4	74.2	74.2	74.2	74.0	...	...	...	...	...	0.0	-0.3	264
613. National defense purchases as a percent of GNP (BEA) ¹	Percent	6.4	5.8	5.8	5.7	5.5	...	...	...	...	...	-0.1	-0.2	613
ADVANCE INDICATORS OF DEFENSE ACTIVITY														
Defense Dept. gross obligations incurred (DOD):														
617. Total	Ann. rate, bil. dol.	84.8	NA	81.9	85.5	NA	93.0	91.8	NA	-1.3	NA	4.4	NA	617
621. Procurement	do	20.3	NA	18.5	16.7	NA	23.4	22.2	NA	-5.1	NA	-9.7	NA	621
623. Gross obligations incurred outside the Federal Government for national defense (Treasury)	do	88.7	NA	82.7	90.7	NA	107.8	91.1	NA	-15.5	NA	9.7	NA	623
625. Defense Department military prime contract awards for work performed in the U.S. (DOD)	do	36.0	NA	34.3	34.6	NA	36.4	43.6	NA	19.8	NA	0.9	NA	625
643. Defense Department gross unpaid obligations outstanding (DOD)	Bil. dol. end of period	34.2	NA	35.3	36.1	NA	36.9	36.9	NA	0.0	NA	2.3	NA	643
648. Mfrs.' new orders, defense products (Census)	Ann. rate, bil. dol.	20.7	21.3	23.9	18.5	21.2	22.7	25.8	15.0	13.7	-41.9	-22.6	14.6	648
650. Manufacturers' new orders from the U.S. Government, aerospace industries (Census)	do	15.2	NA	19.0	13.6	NA	...	...	...	...	...	-28.4	NA	650
653. Average weekly overtime hours, production workers, defense products industries (BLS) ¹	Hours	2.8	NA	3.0	3.0	NA	3.0	3.1	NA	0.1	NA	0.0	NA	653
654. Accessions, defense products industries (BLS) ¹	Number per 100 employees	2.1	NA	2.2	2.3	NA	2.5	NA	NA	NA	NA	0.1	NA	654
655. Layoffs, defense products industries (BLS) ¹	do	0.8	NA	0.7	0.6	NA	0.6	NA	NA	NA	NA	-0.1	NA	655
656. Job vacancy rate, defense products industries (BLS) ¹ @.....	Percent	1.0	NA	1.3	1.4	NA	1.5	1.3	NA	-0.2	NA	0.1	NA	656
INTERMEDIATE AND FINAL INDICATORS OF DEFENSE ACTIVITY														
657. Output of defense and space equipment (FRB)	1967=100	77.9	NA	79.9	80.2	80.2	80.1	79.9	80.6	-0.2	0.9	0.4	0.0	657
659. Mfrs.' inventories, defense products (Census)	Bil. dol. end of period	5.1	NA	5.5	5.5	NA	5.5	5.5	NA	0.0	NA	0.0	NA	659
661. Mfrs.' unfilled orders, defense products (Census)	do	19.6	21.1	20.9	20.7	21.1	20.9	21.5	21.1	2.9	-1.9	-1.0	1.9	661
664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)	do	15.3	NA	16.3	15.7	NA	...	...	...	...	...	-3.7	NA	664
666. Defense Department progress payments outstanding (DOD) @.....	do	6.7	NA	7.0	7.1	NA	...	...	...	...	...	1.4	NA	666
Employment in defense products industries (BLS):														
670. Total	Thousands	1,119	1,144	1,144	1,144	1,150	1,147	1,150	1,152	0.3	0.2	0.0	0.5	670
671. Production workers	do	581	605	606	605	608	607	606	610	-0.2	0.7	-0.2	0.5	671
673. Index of aggregate weekly man-hours, defense products industries (BLS)	1967=100	66.6	NA	68.1	68.1	NA	68.1	68.4	NA	0.4	NA	0.0	NA	673
675. Index of aggregate weekly payrolls, production workers, defense products industries (BLS)	do	81.2	NA	89.3	90.9	NA	92.5	92.7	NA	0.2	NA	1.8	NA	675
Defense Department manpower (DOD): @.....														
677. Military	Thousands, end of period	2,348	2,202	2,253	2,232	2,202	2,229	2,218	2,202	-0.5	-0.7	-0.9	-1.3	677
678. Civilian	do	1,082	NA	1,031	1,019	NA	1,022	1,026	NA	0.4	NA	-1.2	NA	678
Defense Department net outlays (DOD):														
680. Total, military functions and military assistance	Ann. rate, bil. dol.	75.6	76.3	75.5	75.7	77.2	76.0	81.4	74.1	7.1	-9.0	0.3	2.0	680
682. Procurement	do	17.1	15.7	16.4	14.9	15.6	17.6	15.3	14.0	-13.1	-8.5	-9.1	4.7	682
683. Budget outlays for the national defense function (Treasury)	do	77.7	NA	77.9	75.4	NA	76.7	84.2	NA	9.8	NA	-3.2	NA	683
685. Defense Dept. personnel compensation (DOD)	do	32.0	NA	31.9	32.2	NA	32.9	33.5	NA	1.8	NA	0.9	NA	685
688. Mfrs.' shipments, defense products (Census)	do	18.3	19.7	19.9	19.3	19.7	20.5	19.3	19.2	-5.9	-0.5	-3.0	2.1	688
689. Manufacturers' shipments to the U.S. Government, aerospace industries (Census)	do	13.5	NA	14.8	14.9	NA	...	...	...	...	...	0.7	NA	689
691. Ratio, manufacturers' unfilled orders to shipments, defense products (Census)	Ratio	12.4	12.5	12.4	12.9	12.9	12.2	13.4	13.2	9.8	-1.5	4.0	0.0	691
693. Ratio, manufacturers' inventories to shipments, defense products (Census)	do	3.2	NA	3.3	3.4	NA	3.2	3.4	NA	6.2	NA	3.0	NA	693
DEFENSE-RELATED BALANCE OF PAYMENTS COMPONENTS														
546. Transfers under U.S. military agency sales contracts—exports (BEA) ¹	Ann. rate, mil. dol.	1,166	NA	1,820	2,136	NA	...	...	...	...	...	316	NA	546
547. Direct defense expenditures—imports (BEA) ¹ @.....	do	4,724	NA	4,740	4,440	NA	...	...	...	...	...	-300	NA	547
548. U.S. Government cash receipts associated with military sales contracts (BEA) ¹	do	1,391	NA	2,180	2,596	NA	...	...	...	...	...	416	NA	546

NOTE: This table is presented as a convenient summary of the current data for many of the indicators in this report. In many cases, data shown here are rounded to fewer digits or are in different units than those shown in tables 1, 2, 3, and 4. Where available, annual figures are those published by the source agencies; otherwise they (and the quarterly figures for monthly series) are averages or totals of the data as shown in the data tables. Series are seasonally adjusted except for those indicated by @, which appear to contain no seasonal movement.

NA = not available.

¹Differences rather than percent changes are shown for this series.

Gross National Product and National Defense Purchases



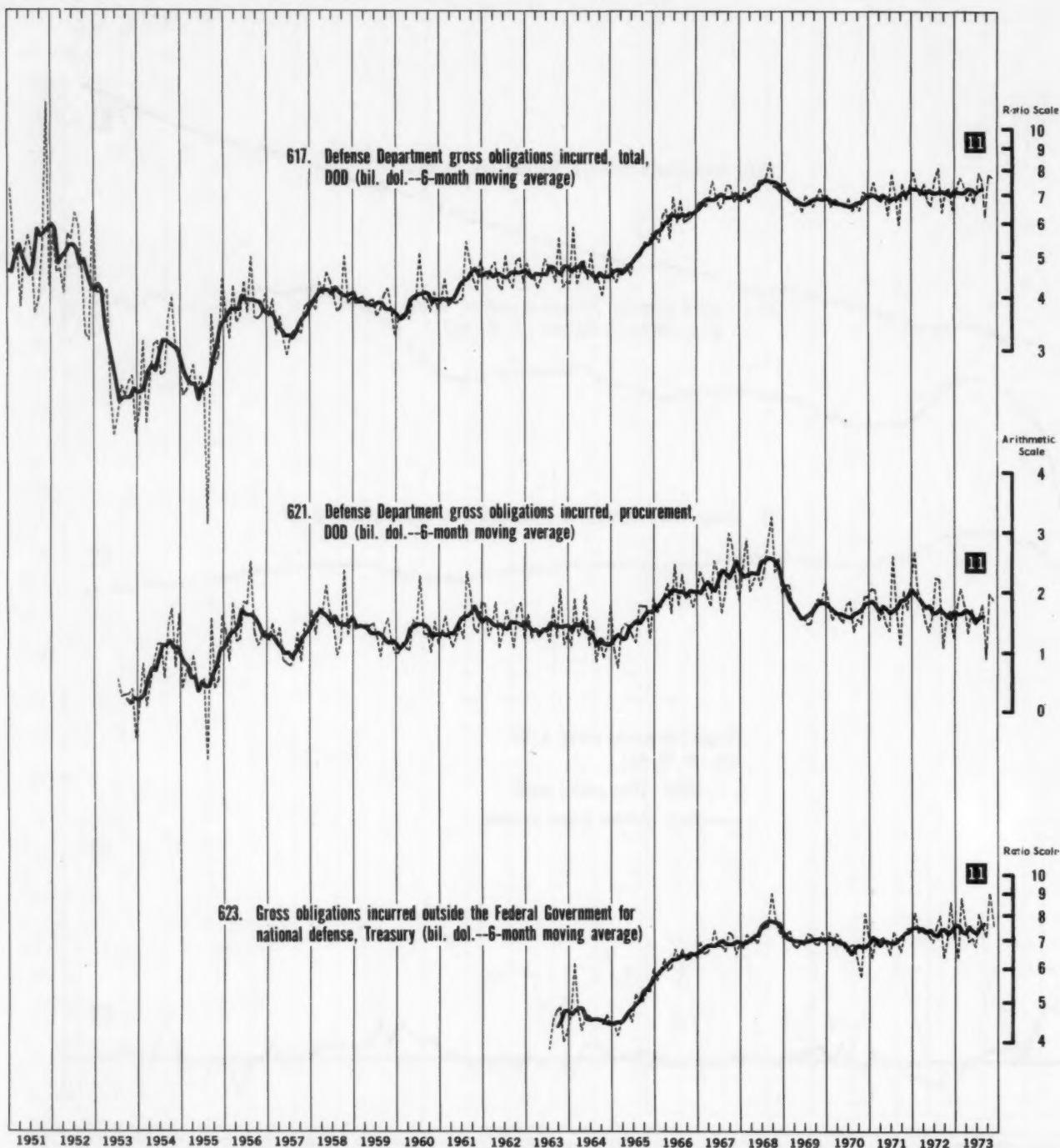
Current data for these series are shown on page 14.

defense indicators

CHART

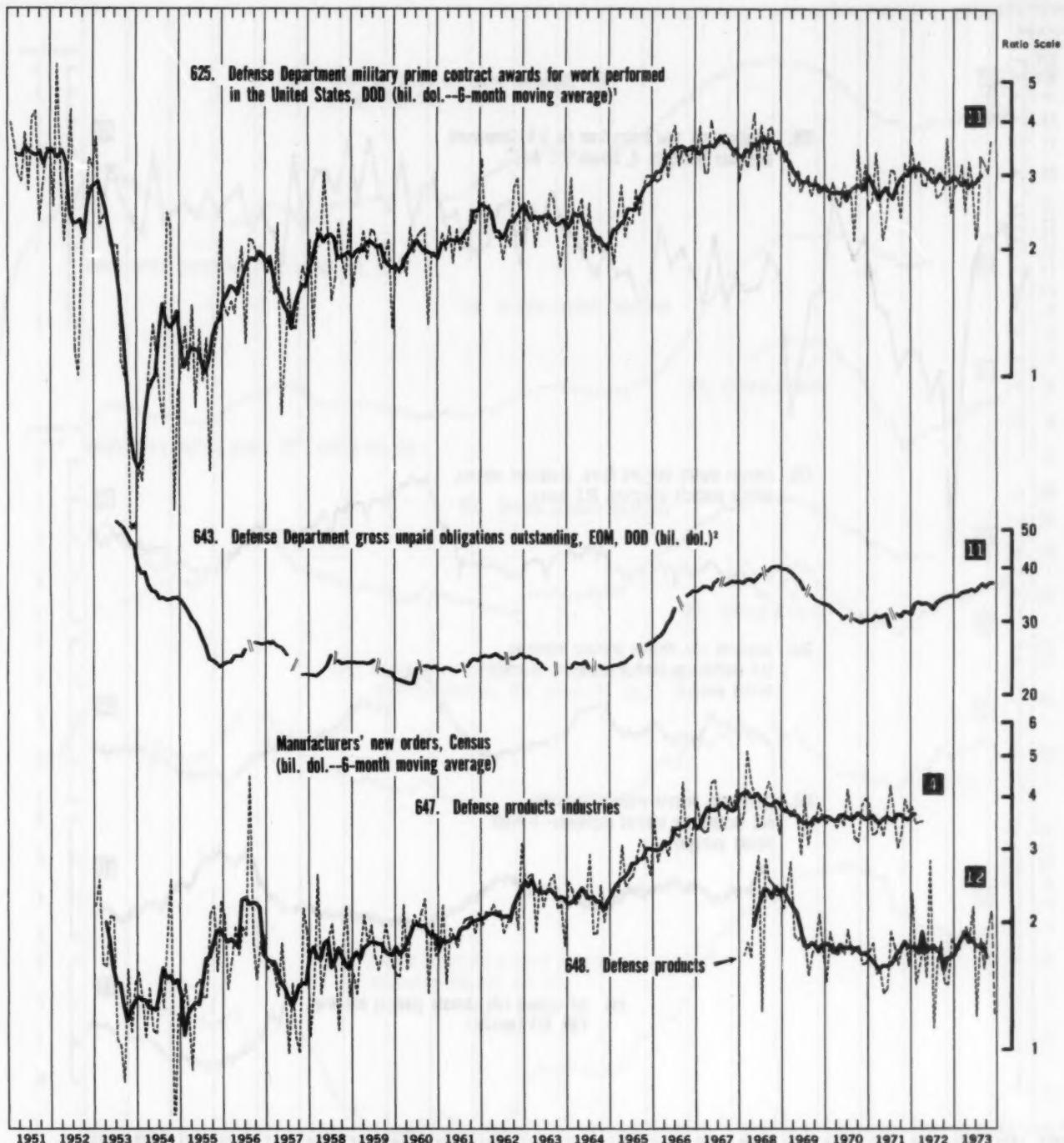
2

Advance Indicators of Defense Activity



Current data for these series are shown on pages 15 and 16.

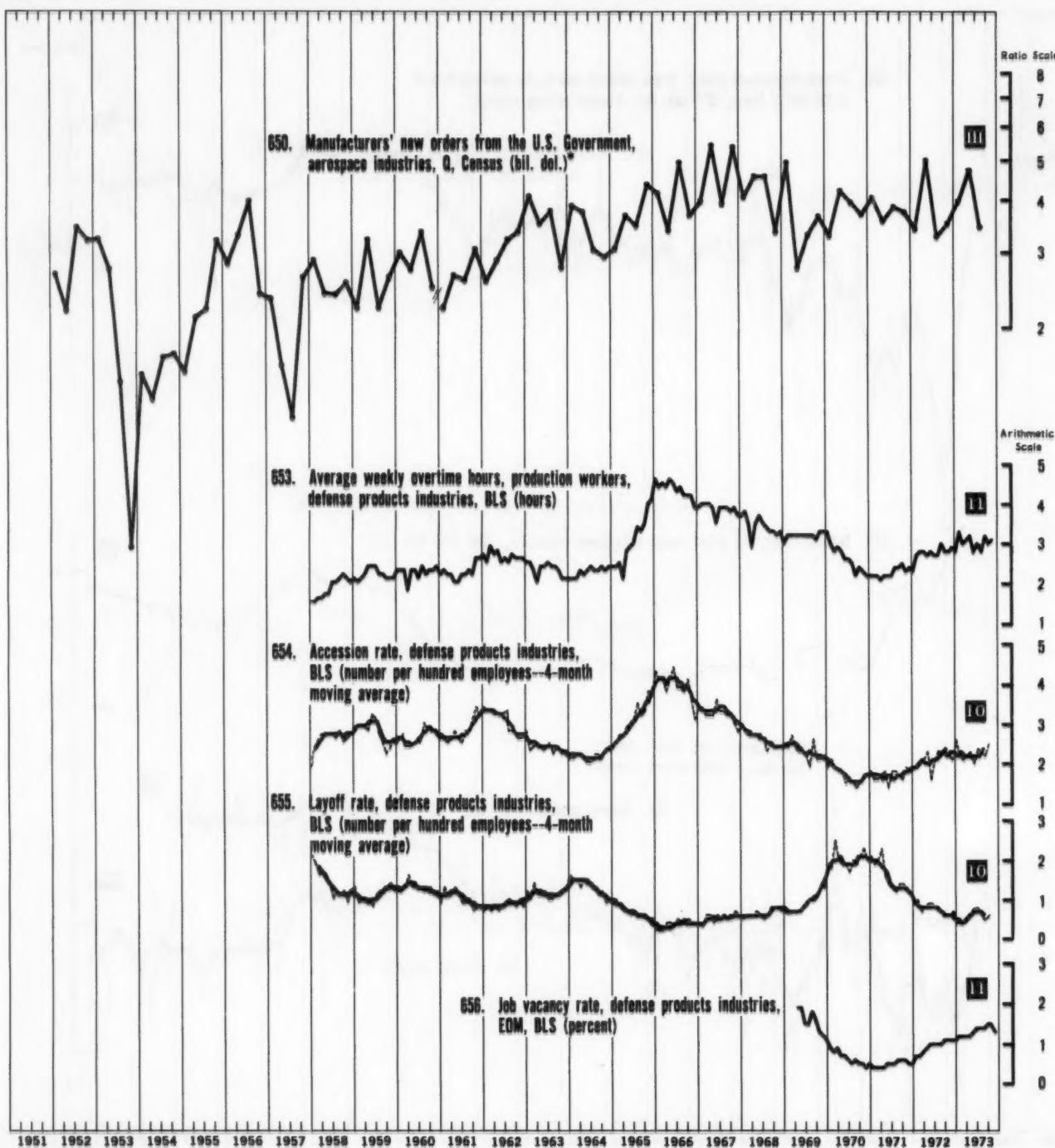
Advance Indicators of Defense Activity--Continued

¹Data prior to July 1955 exclude orders written to other Government agencies.²Data for the following months not available: July of 1956-71; August of 1956-57 and 1963-66; September of 1957, 1963, and 1965; and October and November of 1963.³Contract awards for November 1953--\$265 million; December 1953--\$390 million. Current data for these series are shown on pages 16, 19 and 20.

defense indicators

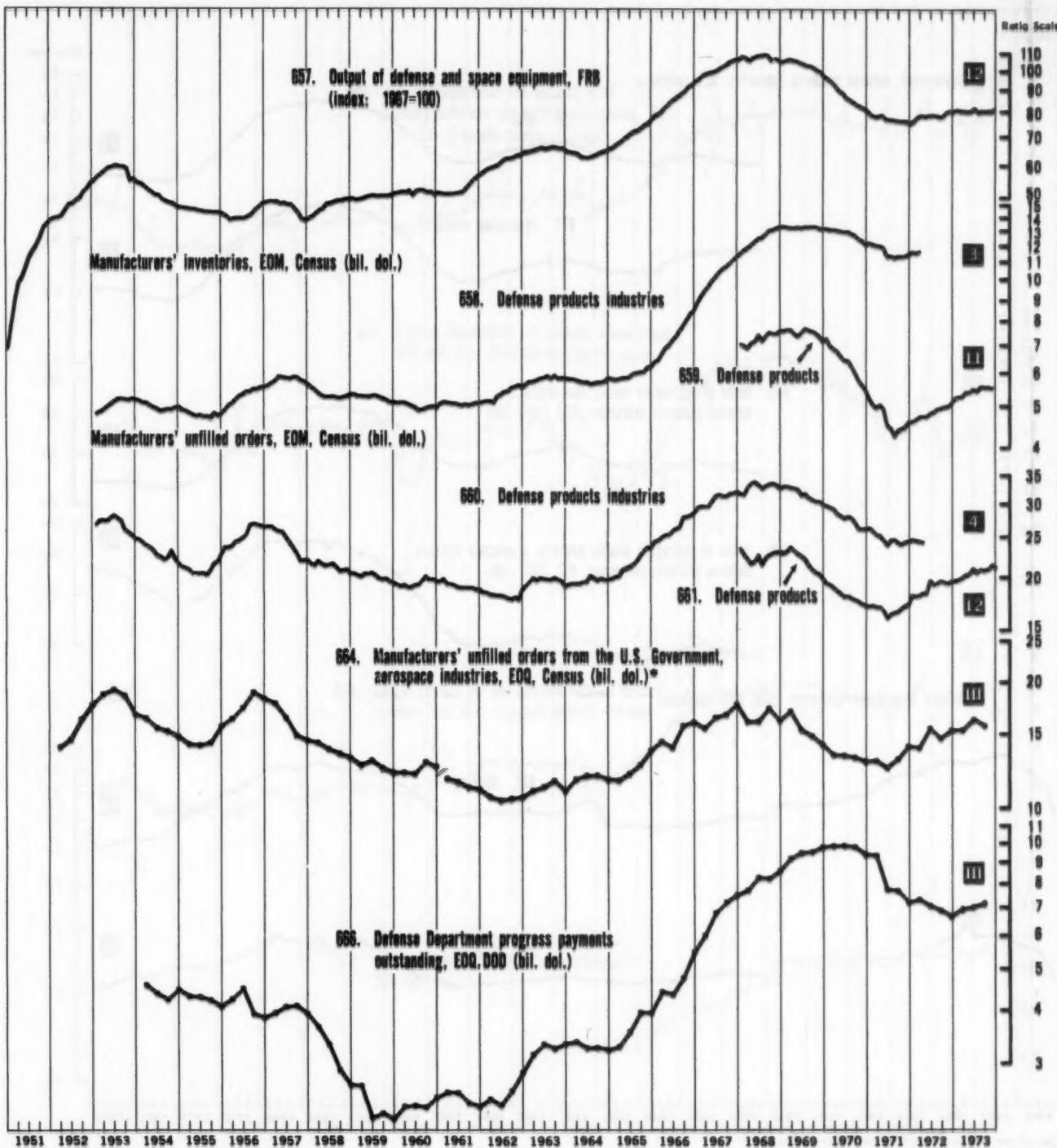
2

Advance Indicators of Defense Activity--Continued



*Data prior to 1961 include orders from non-Government customers.
Current data for these series are shown on pages 20 and 21.

Intermediate and Final Indicators of Defense Activity



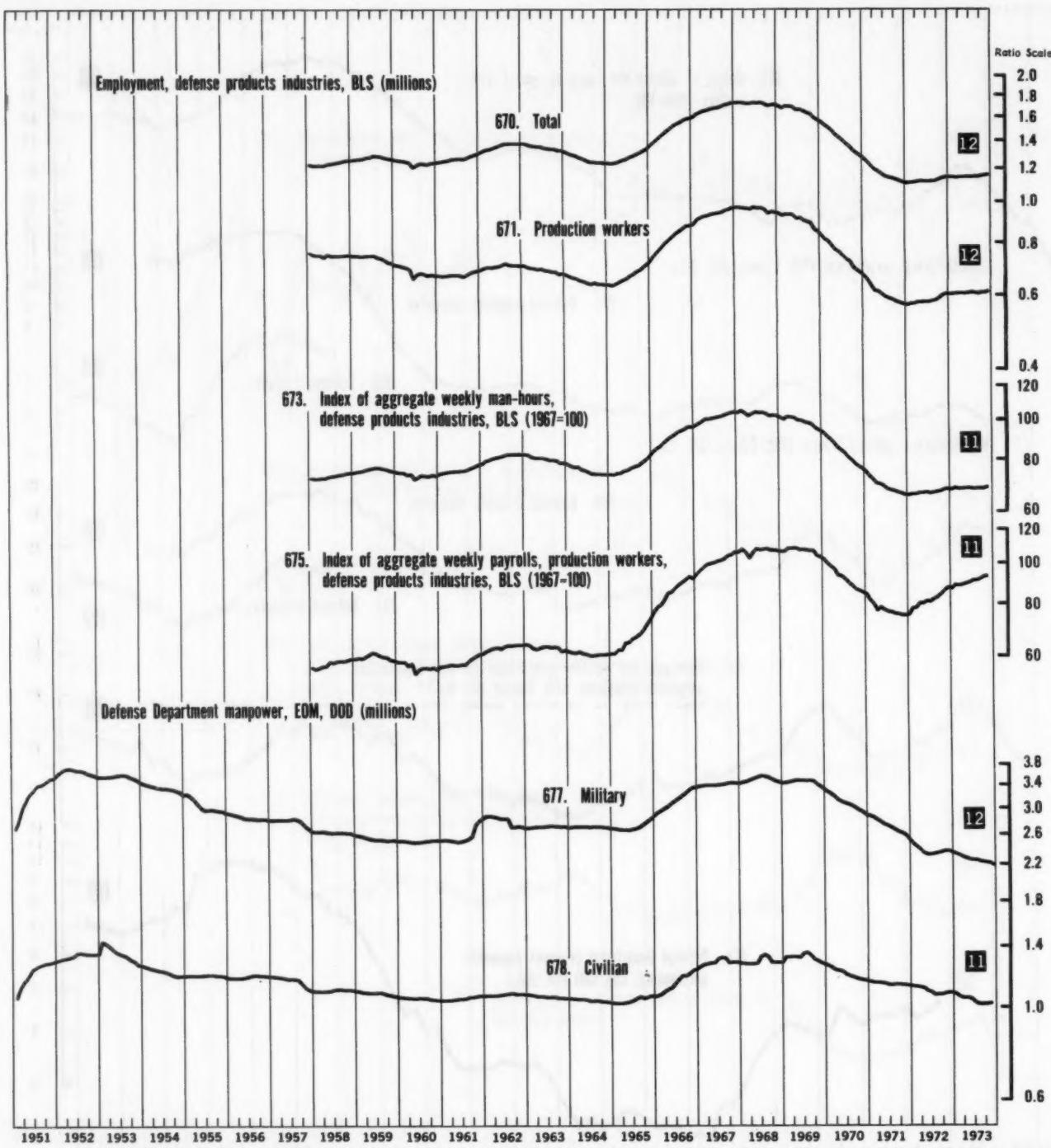
*Data prior to 1961 include orders from non-Government customers.
Current data for these series are shown on page 22.

defense indicators

CHART

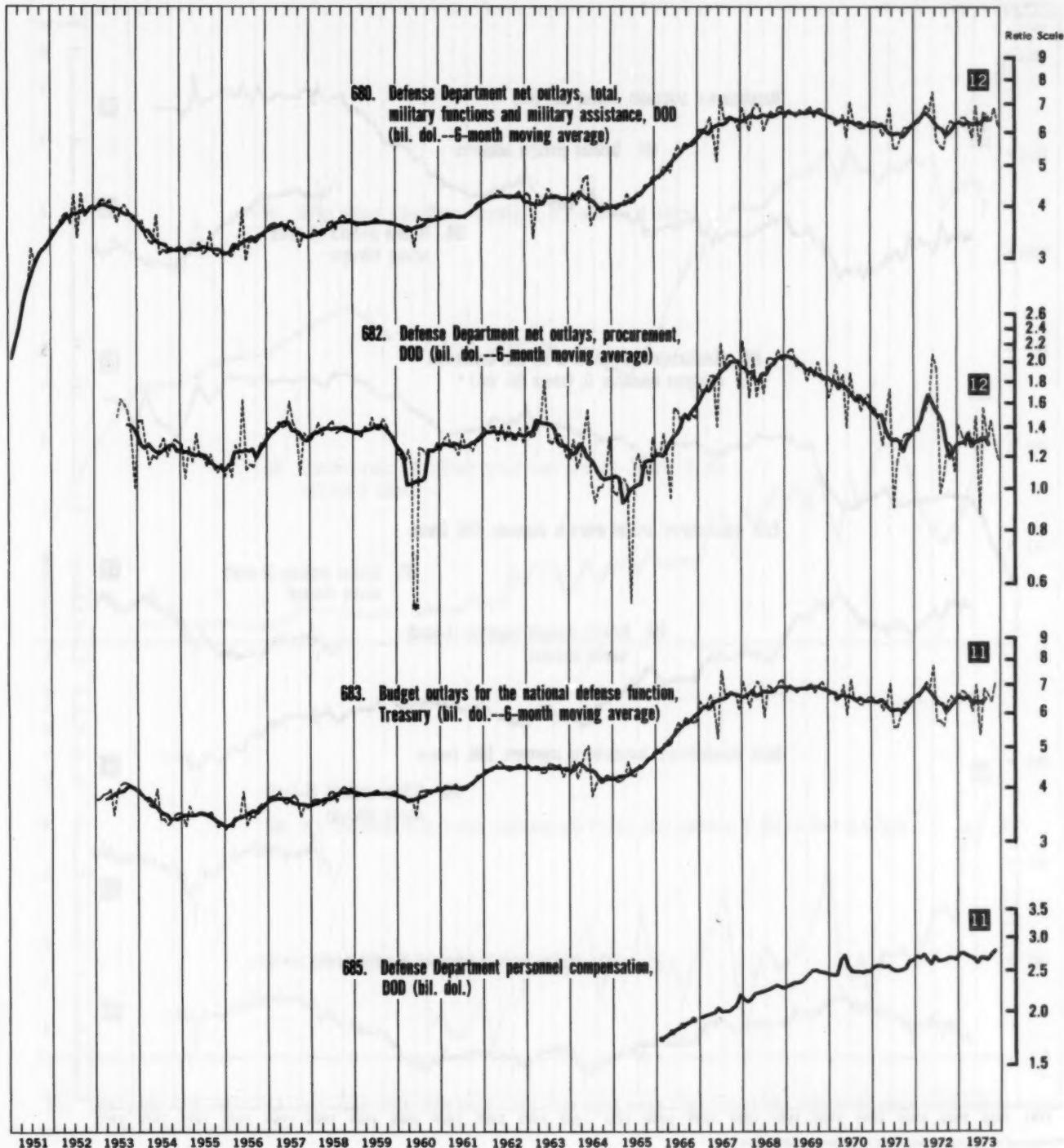
3

Intermediate and Final Indicators of Defense Activity--Continued



Current data for these series are shown on pages 22 and 23.

Intermediate and Final Indicators of Defense Activity--Continued



*Net expenditures for procurement, June 1960—\$245 million.
Current data for these series are shown on pages 24 and 25.

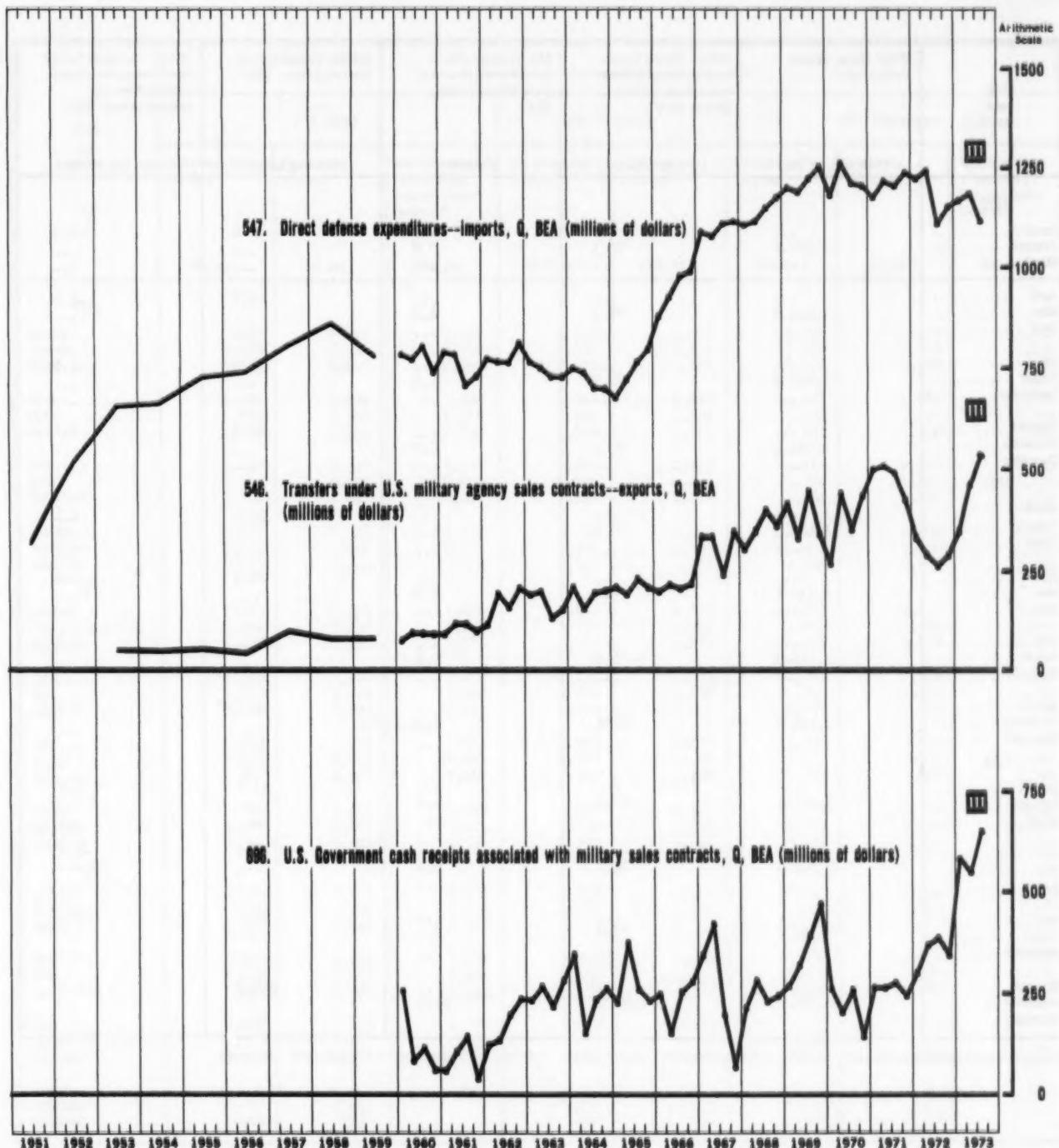
3

Intermediate and Final Indicators of Defense Activity--Continued



4

Defense-Related Balance of Payments Components



1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973

Current data for these series are shown on page 27.

defense indicators

TABLE

1

Gross National Product and National Defense Purchases

Year and month	200(a). Gross national product, BEA*	264(a). Federal Govern- ment purchases of goods and services, national defense, BEA*	613. National defense purchases as a percent of gross national product, BEA*	200(b). Change in gross national product, BEA*	264(b). Change in Federal Government purchases of goods and services, national defense, BEA*
	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Percent)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)
1971					
January .....	...	...	...	35.4	-0.3
February	1,027.2	72.3	7.0	...	...
March .....	...	...	...	...	...
April .....	...	...	...	19.7	-1.0
May	1,046.9	71.3	6.8	...	...
June .....	...	...	...	...	...
July .....	...	...	...	16.6	-1.0
August	1,063.5	70.3	6.6	...	...
September .....	...	...	...	...	...
October .....	...	...	...	20.7	2.1
November	1,084.2	72.4	6.7	...	...
December .....	...	...	...	...	...
1972					
January .....	...	...	...	28.3	4.1
February	1,112.5	76.5	6.9	...	...
March .....	...	...	...	...	...
April .....	...	...	...	29.9	0.1
May	1,142.4	76.6	6.7	...	...
June .....	...	...	...	...	...
July .....	...	...	...	24.1	-4.7
August	1,166.5	71.9	6.2	...	...
September .....	...	...	...	...	...
October .....	...	...	...	32.7	0.5
November	1,199.2	72.4	6.0	...	...
December .....	...	...	...	...	...
1973					
January .....	...	...	...	43.3	1.9
February	1,242.5	74.3	6.0	...	...
March .....	...	...	...	...	...
April .....	...	...	...	29.5	-0.1
May	1,272.0	74.2	5.8	...	...
June .....	...	...	...	...	...
July .....	...	...	...	32.5	0.0
August	1,304.5	74.2	5.7	...	...
September .....	...	...	...	...	...
October .....	...	...	...	p29.5	p-0.2
November	p1,334.0	p74.0	p5.5		
December					

Note: All data on this page are seasonally adjusted.

NA=not available; p=preliminary; r=revised.

*Indicates series shown in charts. (See page 5.)

Advance Indicators of Defense Activity

Year and month	Defense Department gross obligations incurred, DOD							
	617. Total			619. Operations		621. Procurement		
	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971								
January	6,935	6,909	6,916	4,249	4,254	1,946	2,038	1,808
February	6,498	7,434	6,970	3,629	4,152	1,672	2,010	1,846
March	6,163	6,810	6,950	3,933	4,207	1,245	1,528	1,772
April	6,581	6,694	6,829	4,340	4,267	1,425	1,686	1,676
May	5,786	6,912	6,963	3,834	4,109	1,103	1,457	1,766
June	8,605	6,213	6,890	4,808	4,050	2,504	1,340	1,710
July	8,279	7,716	6,738	4,843	4,265	1,518	2,577	1,643
August	6,754	6,997	6,846	4,146	4,122	1,361	1,672	1,696
September	6,374	5,895	6,826	3,953	4,031	1,665	1,127	1,736
October	7,497	7,346	6,996	4,454	4,252	2,183	2,001	1,862
November	6,153	6,791	7,014	3,905	4,225	1,544	1,700	1,872
December	7,137	7,229	7,054	3,987	4,257	2,209	2,096	1,925
1972								
January	7,772	7,825	7,228	4,623	4,653	2,534	2,634	2,040
February	6,542	7,239	7,190	3,990	4,381	1,667	1,994	1,960
March	6,445	6,935	7,179	4,170	4,371	1,470	1,817	1,898
April	6,455	7,122	7,073	4,437	4,429	1,278	1,518	1,815
May	5,813	6,724	7,024	4,084	4,268	993	1,328	1,744
June	9,429	6,595	7,154	5,110	4,311	2,975	1,597	1,776
July	7,769	7,528	7,051	4,933	4,473	1,310	2,213	1,651
August	7,810	8,018	7,043	4,559	4,406	1,767	2,184	1,667
September	6,899	6,317	7,118	4,345	4,498	1,582	1,068	1,725
October	7,178	7,076	7,089	4,647	4,441	1,757	1,610	1,666
November	6,489	7,172	7,024	4,193	4,478	1,556	1,680	1,591
December	6,066	6,422	6,955	4,027	4,441	1,456	1,240	1,568
1973								
January	7,414	7,141	7,129	4,688	4,556	1,815	1,766	1,688
February	6,691	7,603	7,074	4,097	4,671	1,785	2,042	1,638
March	6,716	7,361	7,054	4,174	4,404	1,435	1,787	1,645
April	6,342	6,743	7,098	4,522	4,462	1,028	1,316	1,703
May	5,997	7,052	7,208	4,195	4,324	1,171	1,720	1,669
June	9,327	6,690	7,180	5,122	4,435	2,871	1,587	1,629
July	8,180	7,799	6,975	5,334	4,734	1,019	1,563	1,468
August	7,505	7,438	7,142	4,634	4,534	1,393	1,800	1,574
September	6,289	6,127	7,241	4,201	4,424	1,168	820	1,595
October	8,074	7,746	(NA)	5,024	4,775	2,105	1,951	(NA)
November	6,917	7,646	(NA)	4,346	4,642	1,714	1,851	(NA)
December	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 6.)

defense indicators

2

Advance Indicators of Defense Activity--Continued

Year and month	623. Gross obligations incurred outside the Federal Government for national defense, Treasury		Defense Department military prime contract awards for work performed in the United States, DOD							
			625. Total			626. Aircraft		627. Missile and space systems		
	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971										
January	6,331	6,878	2,215	2,508	2,986	553	***	383	***	
February	7,053	7,104	2,271	2,619	2,867	328	1,804	223	1,040	
March	6,963	6,901	2,871	3,398	2,762	797	***	269	***	
April	7,074	6,784	2,187	2,751	2,626	390	***	230	***	
May	6,831	6,941	1,778	2,112	2,722	339	1,393	199	846	
June	6,454	6,927	4,100	2,367	2,798	902	***	349	***	
July	7,270	6,856	3,208	3,082	2,693	796	***	506	***	
August	6,969	6,876	3,016	3,078	2,633	1,061	2,701	433	1,287	
September	6,536	6,978	3,134	2,769	2,816	722	***	666	***	
October	7,193	7,184	2,715	2,392	2,924	627	***	530	***	
November	7,446	7,258	2,532	3,209	2,999	597	1,894	279	1,280	
December	7,331	7,307	3,152	3,016	2,981	564	***	472	***	
1972										
January	8,070	7,462	3,210	3,531	3,059	634	***	359	***	
February	7,867	7,490	2,499	2,971	3,138	469	1,915	410	1,554	
March	7,467	7,431	2,871	3,233	3,078	726	***	473	***	
April	7,362	7,364	2,167	2,866	3,096	471	***	257	***	
May	7,090	7,269	2,204	2,848	3,023	367	2,236	209	1,100	
June	6,930	7,382	5,574	3,126	2,973	1,586	***	481	***	
July	7,500	7,195	3,415	3,093	2,885	955	***	681	***	
August	7,944	7,136	2,593	2,673	2,881	529	1,991	326	1,164	
September	6,345	7,381	2,815	2,704	3,020	523	***	481	***	
October	7,010	7,413	3,008	2,840	2,908	395	***	516	***	
November	8,558	7,220	2,997	3,682	2,864	427	1,505	491	1,279	
December	7,121	7,358	2,611	2,459	2,898	612	***	359	***	
1973										
January	6,340	7,578	2,578	2,824	2,978	728	***	377	***	
February	8,775	7,565	2,418	2,879	2,916	328	1,921	297	1,412	
March	7,667	7,314	2,841	3,185	2,842	721	***	504	***	
April	6,929	p7,244	1,854	2,469	2,909	122	***	233	***	
May	7,052	p7,533	2,489	3,237	2,793	866	1,997	129	880	
June	p6,698	p7,317	5,122	2,861	2,866	1,243	***	349	***	
July	8,079	p7,224	2,357	2,129	2,869	396	***	207	***	
August	7,477	p7,567	3,224	3,313	2,962	611	1,811	921	1,229	
September	7,110	p7,657	3,309	3,203	3,028	867	***	435	***	
October	8,984	(NA)	3,198	3,031	(NA)	939	***	368	***	
November	7,593	(NA)	2,967	3,632	(NA)	686	(NA)	283	(NA)	
December										

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See pages 6 and 7.)

Advance Indicators of Defense Activity--Continued

Year and month	628. Ships, not seasonally adjusted	Defense Department military prime contract awards for work performed in the United States, DOD--Continued					
		629. Weapons and ammunition		630. Electronic and communications equipment		631. Combat vehicles	
		Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971							
January	88	190	...	252	...	17	...
February	435	272	709	230	856	27	75
March	498	177	...	255	...	28	...
April	149	206	...	227	...	37	...
May	54	128	619	174	683	18	98
June	140	402	...	552	...	71	...
July	148	10	...	252	...	5	...
August	147	79	596	367	1,236	4	14
September	197	282	...	364	...	5	...
October	24	147	...	212	...	30	...
November	100	428	769	246	744	59	122
December	283	411	...	278	...	14	...
1972							
January	851	257	...	307	...	13	...
February	132	250	801	324	1,083	7	42
March	165	225	...	347	...	13	...
April	59	235	...	248	...	37	...
May	89	225	762	272	959	17	103
June	194	448	...	731	...	72	...
July	160	41	...	234	...	6	...
August	370	82	476	215	931	18	141
September	311	166	...	298	...	140	...
October	276	292	...	302	...	15	...
November	266	269	620	401	937	40	104
December	148	236	...	228	...	33	...
1973							
January	84	207	...	214	...	14	...
February	378	226	683	215	939	11	47
March	85	195	...	420	...	11	...
April	82	150	...	237	...	12	...
May	78	184	755	351	959	13	67
June	139	566	...	654	...	54	...
July	337	21	...	131	...	50	...
August	220	81	361	354	990	24	86
September	203	114	...	313	...	27	...
October	161	105	...	248	...	116	...
November	465	106	(NA)	392	(NA)	21	(NA)
December	(NA)	(NA)		(NA)		(NA)	

NA=not available; p=preliminary; r=revised.

defense indicators

TABLE

2

Advance Indicators of Defense Activity--Continued

Year and month	Defense Department military prime contract awards for work performed in the United States, DOD—Continued							
	632. Other hard goods		633. Soft goods		634. Construction		635. Services	
	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971								
January	93	...	89	...	103	...	93	...
February	169	402	96	409	65	320	136	572
March	112	...	122	...	108	...	148	...
April	128	...	132	...	160	...	173	...
May	101	353	125	536	165	342	143	749
June	222	...	158	...	298	...	372	...
July	91	...	607	...	40	...	540	...
August	94	401	126	577	73	347	274	740
September	90	...	113	...	123	...	236	...
October	184	...	96	...	80	...	399	...
November	113	383	118	529	41	388	198	758
December	133	...	327	...	127	...	172	...
1972								
January	92	...	115	...	74	...	135	...
February	135	390	121	492	177	457	148	653
March	135	...	125	...	144	...	143	...
April	132	...	120	...	147	...	118	...
May	169	552	155	542	174	445	163	775
June	399	...	141	...	470	...	440	...
July	62	...	545	...	138	...	347	...
August	106	408	179	575	103	455	325	609
September	111	...	127	...	64	...	167	...
October	107	...	111	...	77	...	571	...
November	111	293	85	540	88	338	334	1,000
December	115	...	358	...	69	...	155	...
1973								
January	140	...	141	...	103	...	154	...
February	141	465	112	490	205	483	140	696
March	130	...	102	...	131	...	158	...
April	145	...	113	...	153	...	197	...
May	128	497	97	482	151	451	137	834
June	393	...	158	...	493	...	446	...
July	65	...	489	...	34	...	341	...
August	117	427	177	574	111	368	265	632
September	106	...	186	...	101	...	252	...
October	133	...	154	...	147	...	388	...
November	142	(NA)	235	(NA)	54	(NA)	161	(NA)
December	(NA)		(NA)		(NA)		(NA)	

NA=not available; p=preliminary; r=revised.

Advance Indicators of Defense Activity--Continued

Year and month	Defense Department military prime contract awards for work performed in the United States, DOD—Continued				640. Defense Department military prime contract awards for work outside the United States, DOD		Defense Department gross unpaid obligations outstanding, DOD	
	636. Contracts under \$10,000		637. Educational and nonprofit institutions				Not seasonally adjusted	Seasonally adjusted*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971								
January	293	...	61	...	123	...	30,905	30,181
February	237	861	53	181	93	484	31,098	30,851
March	303	...	54	...	188	...	30,144	30,541
April	327	...	28	...	98	...	29,846	30,737
May	299	898	33	161	64	484	29,170	31,098
June	536	...	98	...	262	...	28,554	29,077
July	149	...	64	...	509	...	(NA)	(NA)
August	297	958	61	164	197	525	31,286	31,069
September	305	...	31	...	96	...	31,376	30,671
October	297	...	89	...	123	...	32,619	31,546
November	269	882	84	234	107	437	32,110	31,450
December	275	...	96	...	105	...	31,388	31,046
1972								
January	327	...	46	...	169	...	33,734	32,879
February	289	967	37	155	130	492	33,554	33,189
March	317	...	58	...	106	...	32,480	32,841
April	300	...	43	...	82	...	32,152	33,044
May	318	881	46	187	95	536	30,675	32,737
June	516	...	96	...	290	...	31,347	31,954
July	159	...	87	...	368	...	32,546	32,975
August	279	986	61	240	278	545	33,684	33,450
September	348	...	79	...	195	...	34,563	33,852
October	277	...	69	...	142	...	35,251	34,125
November	313	888	172	243	104	455	35,009	34,289
December	255	...	43	...	99	...	34,601	34,225
1973								
January	341	...	75	...	156	...	35,171	34,246
February	320	1,019	45	189	151	527	35,287	34,869
March	334	...	50	...	125	...	34,766	35,117
April	356	...	54	...	213	...	34,297	35,213
May	319	968	34	166	83	645	33,409	35,693
June	551	...	76	...	264	...	34,621	35,328
July	225	...	61	...	368	...	35,500	35,968
August	210	1,014	123	287	244	497	37,069	36,811
September	390	...	86	...	159	...	36,829	36,107
October	319	...	85	...	194	...	38,039	36,859
November	335	(NA)	87	(NA)	240	(NA)	37,680	36,905
December	(NA)						(NA)	

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 7.)

defense indicators

TABLE

2

Advance Indicators of Defense Activity--Continued

Year and month	Defense Department gross unpaid obligations outstanding, DOD-Con.				Manufacturers' new orders, Census				650. Manufac-turers' new orders from the U.S. Govern- ment, aerospace industries, Census, seasonally adjusted*	
	644. Operations		645. Procurement		647. Defense products industries		648. Defense products			
	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*		
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	
1971										
January	5,072	4,785	18,855	18,395	3,848	3,546	1,713	1,661	***	
February	4,791	4,781	18,924	18,553	3,247	3,608	1,791	1,624	4,040	
March	4,479	4,685	18,411	18,485	3,275	3,511	1,512	1,585	***	
April	4,534	4,823	18,268	18,660	3,496	3,454	1,534	1,551	***	
May	4,342	4,824	17,857	18,640	3,233	3,521	1,359	1,583	3,548	
June	4,077	4,545	18,522	18,266	3,628	3,585	1,395	1,577	***	
July	(NA)	(NA)	(NA)	(NA)	4,246	3,542	1,905	1,589	***	
August	5,186	4,944	18,783	19,265	3,634	3,501	1,755	1,625	3,843	
September	5,092	4,850	19,059	19,040	3,018	3,620	1,587	1,700	***	
October	5,586	5,019	19,797	19,659	3,249	3,630	1,752	1,731	***	
November	5,366	5,053	19,056	18,886	3,947	3,554	1,809	1,803	3,730	
December	4,933	4,928	20,372	20,208	3,687	3,524	1,577	1,748	***	
1972										
January	5,303	4,998	21,702	21,131	3,790	3,601	2,339	1,747	***	
February	5,021	5,011	21,877	21,364	3,452	p3,642	1,426	1,749	3,399	
March	4,635	4,864	21,637	21,680	3,482	(NA)	1,582	1,695	***	
April	4,439	4,727	21,360	21,774	p3,497		1,763	1,902	***	
May	3,891	4,323	20,672	21,578	(NA)		1,486	1,700	4,992	
June	4,211	4,700	20,982	20,692			2,818	1,734	***	
July	4,739	4,881	20,570	20,820			1,123	1,771	***	
August	5,043	4,807	20,813	21,347			1,634	1,717	3,266	
September	5,349	5,104	21,237	21,280			1,803	1,707	***	
October	5,845	5,242	21,645	21,537			1,437	1,541	***	
November	5,671	5,335	21,836	21,663			1,425	1,647	3,505	
December	5,438	5,433	22,023	21,634			1,824	1,662	***	
1973										
January	5,741	5,406	22,326	21,718			1,760	1,677	***	
February	5,589	5,578	22,721	22,145			1,725	1,762	3,943	
March	5,273	5,539	22,469	22,491			1,889	1,833	***	
April	5,424	5,776	22,044	22,448			1,952	1,892	***	
May	5,427	5,808	21,753	22,407			1,849	1,798	r4,749	
June	5,301	5,916	22,806	22,513			2,175	1,820	***	
July	6,200	6,385	22,100	22,391			1,199	1,766	***	
August	6,754	6,439	22,432	23,031			1,855	1,756	p3,388	
September	6,719	6,417	22,195	22,284			1,565	r1,807	***	
October	7,519	6,737	22,679	22,589			1,893	pl,653	***	
November	7,193	6,767	22,877	22,695	(NA)		r2,154	pl,254	(NA)	

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See pages 7 and 8.)

Advance Indicators of Defense Activity--Continued

Year and month	653. Average weekly overtime hours, production workers, defense products industries, BLS		654. Accession rate, defense products industries, BLS			655. Layoff rate, defense products industries, BLS			656. Job vacancy rate, defense products industries, BLS, not seasonally adjusted*
	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	
	(Hours)	(Hours)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Percent)
1971									
January	2.3	2.2	1.7	1.8	1.7	2.4	2.1	2.0	0.4
February	2.0	2.2	1.3	1.6	1.7	2.1	1.9	2.0	0.4
March	2.1	2.2	1.5	1.6	1.7	2.2	2.0	2.0	0.4
April	1.8	2.1	1.5	1.7	1.7	2.4	2.3	1.9	0.4
May	1.9	2.2	1.7	1.8	1.6	1.4	1.6	1.8	0.5
June	2.2	2.2	2.3	1.4	1.7	1.2	1.4	1.7	0.5
July	1.9	2.2	1.9	1.8	1.7	1.1	1.3	1.4	0.5
August	2.4	2.4	2.1	1.8	1.6	1.1	1.2	1.3	0.6
September	2.6	2.4	1.9	1.7	1.7	1.3	1.4	1.3	0.6
October	2.6	2.5	1.7	1.6	1.7	1.4	1.4	1.3	0.6
November	2.6	2.3	1.6	1.9	1.8	1.3	1.3	1.3	0.5
December	2.8	2.4	1.2	1.8	1.8	1.0	1.2	1.2	0.5
1972									
January	2.4	2.3	1.8	1.9	1.9	1.2	0.9	1.1	0.7
February	2.5	2.7	1.7	1.9	1.9	1.2	1.0	0.9	0.7
March	2.7	2.8	1.9	2.0	2.0	1.0	0.7	0.8	0.8
April	2.5	2.8	1.9	2.1	2.1	0.9	0.8	0.8	0.9
May	2.4	2.7	2.2	2.3	2.0	0.7	0.9	0.8	1.0
June	2.8	2.8	2.5	1.6	2.0	0.6	0.9	0.8	1.0
July	2.4	2.7	2.2	2.1	2.1	0.6	0.8	0.8	1.0
August	2.7	2.7	2.6	2.3	2.1	0.6	0.7	0.8	1.0
September	3.2	3.0	2.5	2.3	2.2	0.6	0.7	0.7	1.1
October	3.0	2.8	2.4	2.4	2.3	0.6	0.6	0.6	1.1
November	3.1	2.8	1.9	2.2	2.2	0.6	0.6	0.6	1.1
December	3.4	2.9	1.5	2.1	2.3	0.5	0.7	0.6	1.1
1973									
January	2.9	2.8	2.5	2.6	2.3	0.8	0.4	0.5	1.2
February	3.1	3.3	2.0	2.2	2.2	0.7	0.4	0.5	1.2
March	2.9	3.0	2.0	2.1	2.3	0.7	0.4	0.4	1.2
April	2.8	3.1	2.0	2.2	2.2	0.6	0.5	0.5	1.2
May	2.9	3.2	2.2	2.3	2.2	0.5	0.7	0.6	1.3
June	2.8	2.8	2.9	2.0	2.2	0.5	0.8	0.7	1.4
July	2.7	3.0	2.5	2.4	2.2	0.6	0.8	0.7	1.4
August	2.8	2.8	2.6	2.3	2.2	0.5	0.6	0.7	1.4
September	3.4	3.2	2.4	2.2	2.4	0.4	0.5	0.6	1.5
October	r3.2	r3.0	2.5	2.5	(NA)	0.6	0.6	(NA)	1.5
November	p3.4	p3.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
December	(NA)								

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 8.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity

Year and month	657. Output of defense and space equip- ment, season- ally adjusted, FRB*	Manufacturers' inventories, Census		Manufacturers' unfilled orders, Census		664. Manufac- turers' unfilled orders from the U.S. Gov- ernment, aero- space indus- ties, season- ally adjusted, Census*	666. Defense Department progress payments outstanding, not seasonally adjusted, DOD*	670. Employment in defense products industries, total, BLS	
		658. Defense products industries, seasonally adjusted*	659. Defense products, seasonally adjusted*	660. Defense products indus- ties, season- ally adjusted*	661. Defense products, seasonally adjusted*			Not season- ally adjusted	Seasonally adjusted*
	(Index: 1967=100)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Thous.)	(Thous.)
1971									
January	80.0	12,122	5,185	26,171	16,996	...	...	1,267	1,263
February	78.3	12,021	5,017	25,678	17,096	...	...	1,240	1,239
March	77.6	11,937	4,942	25,182	16,957	12,891	9,313	1,212	1,212
April	77.9	11,922	5,016	25,084	16,939	...	...	1,183	1,190
May	78.2	11,805	4,907	24,497	16,621	...	...	1,170	1,178
June	76.7	11,273	4,492	23,787	15,998	12,431	7,723	1,160	1,163
July	76.3	11,308	4,427	24,486	16,325	...	...	1,144	1,145
August	76.3	11,191	4,243	24,535	16,443	...	...	1,137	1,140
September	76.0	11,295	4,387	24,122	16,573	13,013	7,669	1,139	1,133
October	75.7	11,277	4,418	23,862	16,813	...	...	1,130	1,127
November	75.9	11,302	4,463	24,223	17,080	...	...	1,124	1,118
December	75.6	11,430	4,585	24,325	17,219	13,997	7,181	1,114	1,110
1972									
January	74.8	11,555	4,594	24,547	18,080	...	...	1,108	1,105
February	76.0	11,473	4,627	24,397	17,982	...	...	1,109	1,108
March	77.6	11,572	4,706	24,298	18,047	13,871	7,297	1,108	1,109
April	78.1	(NA)	4,720	p24,172	18,288	...	...	1,109	1,116
May	77.7		4,711	(NA)	18,243	...	...	1,109	1,117
June	78.1		4,802		19,607	15,441	7,043	1,113	1,116
July	78.3		4,831		19,174	...	...	1,113	1,115
August	78.1		4,911		19,320	...	...	1,114	1,117
September	77.6		4,937		19,572	14,628	6,866	1,125	1,119
October	77.9		4,978		19,436	...	...	1,131	1,128
November	79.6		4,988		19,289	...	...	1,142	1,137
December	80.1		5,087		19,553	15,322	6,668	1,146	1,143
1973									
January	79.8		5,210		19,615	...	...	1,145	1,141
February	80.6		5,248		19,710	...	...	1,143	1,142
March	80.1		5,266		19,934	15,303	6,942	1,139	1,140
April	80.0		5,384		20,246	...	...	1,137	1,144
May	79.7		5,384		20,350	...	...	1,135	1,143
June	80.1		5,477		20,944	r16,322	7,026	1,142	1,145
July	81.1		5,434		20,470	...	...	1,141	1,144
August	79.7		5,555		20,772	...	...	1,142	1,146
September	79.8		5,528		20,729	p15,695	7,139	1,148	1,143
October	80.1		5,531		20,912	...	...	r1,150	1,147
November	79.9		5,508		r21,457	...	...	r1,154	r1,150
December	p80.6		(NA)		p21,118	(NA)	(NA)	p1,156	p1,152

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See pages 9 and 10.)

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	671. Employment in defense products industries, production workers, BLS		673. Index of aggregate weekly man-hours, defense products industries, BLS		675. Index of aggregate weekly payrolls, production workers, defense products industries, BLS		Defense Department manpower, DOD	
	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	677. Military, not seasonally adjusted*	678. Civilian, not seasonally adjusted*
	(Thous.)	(Thous.)	(1967=100)	(1967=100)	(1967=100)	(1967=100)	(Thous.)	(Thous.)
1971								
January	667	664	75.0	74.8	84.6	83.9	2,861	1,146
February	650	649	72.6	72.8	80.8	81.2	2,840	1,143
March	629	630	71.6	71.6	79.6	79.6	2,802	1,142
April	608	613	69.3	69.9	75.6	76.9	2,770	1,141
May	605	611	69.0	69.6	76.9	78.1	2,737	1,136
June	598	602	68.6	68.9	76.1	77.1	2,715	1,127
July	589	593	67.2	67.8	74.3	76.3	2,685	1,129
August	585	588	67.0	67.4	75.1	76.1	2,657	1,132
September	589	584	67.3	67.0	76.3	75.5	2,627	1,130
October	581	578	66.8	66.5	75.9	75.4	2,608	1,128
November	579	574	66.9	66.2	76.7	74.9	2,579	1,125
December	574	570	66.6	65.6	77.9	75.0	2,519	1,122
1972								
January	570	567	65.7	65.5	75.8	75.2	2,462	1,119
February	573	572	65.8	66.0	77.5	77.9	2,426	1,117
March	571	572	65.9	65.9	78.2	78.2	2,385	1,112
April	572	577	65.9	66.4	78.7	80.1	2,341	1,107
May	571	577	65.8	66.4	78.7	79.9	2,319	1,090
June	575	578	66.3	66.6	79.9	81.0	2,323	1,083
July	575	578	65.7	66.3	78.5	80.7	2,332	1,068
August	578	581	66.1	66.5	80.8	81.9	2,344	1,073
September	587	582	67.1	66.8	83.7	82.8	2,356	1,071
October	592	589	67.4	67.1	84.6	84.1	2,371	1,081
November	604	599	68.4	67.7	88.0	86.0	2,370	1,083
December	608	604	68.9	67.9	90.6	87.2	2,348	1,082
1973								
January	606	602	67.8	67.6	87.2	86.6	2,334	1,073
February	606	604	68.1	68.3	88.2	88.6	2,314	1,057
March	603	605	67.9	67.9	88.3	88.3	2,291	1,051
April	601	606	67.4	68.0	87.2	88.7	2,274	1,051
May	599	605	67.6	68.2	88.0	89.3	2,256	1,051
June	603	606	67.9	68.2	88.7	89.8	2,253	1,031
July	603	607	67.4	68.1	88.1	90.5	2,251	1,019
August	601	604	67.6	68.0	89.5	90.7	2,237	1,022
September	608	603	68.6	68.2	92.6	91.6	2,232	1,019
October	r610	r607	68.4	r68.1	r93.0	r92.5	2,227	1,022
November	r611	r606	p69.1 (NA)	p68.4 (NA)	p94.9 (NA)	p92.7 (NA)	2,218	1,026 (NA)
December	p614	p610					p2,202	

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 10.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	Defense Department net outlays, DOD							
	680. Total, military functions and military assistance			681. Operations		682. Procurement		
	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971								
January	5,985	6,316	6,218	3,687	3,812	1,440	1,553	1,550
February	5,813	6,280	6,178	3,685	3,943	1,423	1,532	1,507
March	6,508	6,225	6,178	3,954	4,028	1,549	1,405	1,488
April	6,131	5,853	6,264	4,031	3,905	1,343	1,265	1,496
May	5,838	6,095	6,122	3,745	3,861	1,346	1,501	1,387
June	7,889	6,812	5,981	4,812	3,907	1,878	1,718	1,324
July	5,001	5,468	5,904	3,632	4,011	895	901	1,304
August	5,441	5,431	5,947	3,710	3,718	1,143	1,155	1,315
September	5,840	5,767	5,948	3,825	3,803	1,313	1,282	1,290
October	5,943	6,110	5,846	3,845	3,915	1,317	1,335	1,226
November	5,972	6,103	5,982	3,877	3,992	1,322	1,348	1,306
December	6,498	6,198	6,125	4,188	4,063	1,366	1,335	1,342
1972								
January	5,973	6,285	6,251	3,971	4,199	1,276	1,379	1,376
February	6,128	6,285	6,379	4,013	4,168	1,367	1,372	1,409
March	6,944	6,527	6,476	4,307	4,286	1,666	1,485	1,459
April	6,539	6,876	6,681	4,294	4,353	1,456	1,533	1,583
May	6,911	6,682	6,583	4,535	4,459	1,621	1,651	1,673
June	8,769	7,431	6,457	4,271	3,468	2,390	2,080	1,606
July	4,987	5,695	6,272	3,972	4,489	1,675	1,917	1,538
August	5,679	5,530	6,146	3,928	3,824	975	972	1,496
September	5,212	5,416	6,091	3,805	3,886	1,072	1,073	1,432
October	6,107	6,120	5,892	3,925	4,017	1,306	1,286	1,268
November	6,313	6,355	5,989	4,084	4,082	1,254	1,262	1,184
December	6,063	6,233	6,144	4,012	4,089	1,084	1,096	1,245
1973								
January	6,388	6,282	6,319	4,119	4,145	1,355	1,412	1,277
February	6,054	6,458	6,333	3,988	4,223	1,243	1,341	1,290
March	6,736	6,464	6,240	4,217	4,307	1,439	1,264	1,288
April	6,222	6,206	6,348	4,087	3,969	1,287	1,364	1,352
May	6,213	5,800	6,262	4,033	3,930	1,315	1,254	1,262
June	7,854	6,878	6,290	4,537	3,846	1,649	1,478	1,296
July	5,005	5,769	6,304	3,669	3,992	863	870	1,302
August	6,649	6,625	6,324	4,279	4,189	1,450	1,543	1,320
September	5,967	6,543	6,488	4,027	4,302	1,239	1,305	1,322
October	6,527	6,330	p6,372	4,105	4,089	1,487	1,468	p1,271
November	p6,766	p6,785		4,359	4,418	1,268	1,271	
December	p5,954	p6,179		p4,067	p4,227	p1,124	p1,167	

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 11.)

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	683. Budget outlays for the na- tional defense function, Treasury		685. Defense Dept. personnel compensation, DOD		Manufacturers' shipments, Census			689. Manufac- turers' ship- ments to the U.S. Govern- ment, aerospace industries, seasonally adjusted, Census*
	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Not seasonally adjusted	Seasonally adjusted*	687. Defense products industries, seasonally adjusted*	688. Defense products		
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971								
January	6,500	6,402	2,545	2,538	3,755	1,762	1,739	...
February	6,321	6,371	2,480	2,564	3,740	1,691	1,687	3,665
March	6,440	6,357	2,600	2,561	3,771	1,651	1,667	...
April	6,061	6,441	2,536	2,541	3,594	1,552	1,718	...
May	6,302	6,281	2,565	2,560	3,820	1,677	1,695	4,027
June	7,019	6,153	2,537	2,512	4,338	2,018	1,692	...
July	5,540	6,062	2,524	2,487	3,548	1,578	1,673	...
August	5,553	6,104	2,506	2,494	3,584	1,637	1,640	3,404
September	5,898	6,108	2,511	2,504	3,431	1,457	1,545	...
October	6,309	6,018	2,480	2,525	3,511	1,512	1,517	...
November	6,331	6,185	2,579	2,629	3,587	1,542	1,485	3,049
December	6,479	6,350	2,654	2,646	3,585	1,438	1,499	...
1972								
January	6,542	6,494	2,713	2,697	3,567	1,478	1,500	...
February	6,538	6,623	2,681	2,677	3,601	1,524	1,496	3,192
March	6,767	6,712	2,778	2,731	3,581	1,517	1,514	...
April	7,078	6,916	2,625	2,649	p3,625 (NA)	1,522	1,510	...
May	6,865	6,783	2,638	2,583		1,531	1,516	3,288
June	7,707	6,648	2,711	2,698		1,454	1,510	...
July	5,743	6,449	2,651	2,633		1,556	1,516	...
August	5,731	6,328	2,693	2,643		1,488	1,524	3,852
September	5,569	6,278	2,610	2,652		1,551	1,548	...
October	6,351	6,041	2,636	2,681		1,573	1,549	...
November	6,565	6,177	2,658	2,675		1,572	1,591	3,178
December	6,289	6,347	2,609	2,654		1,560	1,607	...
1973								
January	6,556	6,527	2,811	2,745		1,698	1,625	...
February	6,754	6,544	2,666	2,751		1,630	1,639	3,578
March	6,648	6,456	2,728	2,714		1,665	1,676	...
April	6,452	6,574	2,675	2,688		1,640	1,653	...
May	6,034	6,370	2,736	2,677		1,746	1,661	3,712
June	6,999	6,386	2,615	2,612		1,583	1,639	...
July	5,330	6,389	2,712	2,693		1,673	1,632	...
August	6,850	6,379	2,735	2,684		1,552	1,625	p3,733
September	6,669	6,544	2,615	2,673		1,607	r1,630	...
October	6,394	(NA)	2,732	2,738		1,710	p1,614	...
November	7,020	(NA)	p2,773 (NA)	p2,790		r1,607	(NA)	
December						p1,596		

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See pages 11 and 12.)

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	Ratio, manufacturers' unfilled orders to shipments, Census				Ratio, manufacturers' inventories to shipments, Census			
	690. Defense products industries		691. Defense products		692. Defense products industries		693. Defense products	
	Seasonally adjusted*	Moving average of seasonally adjusted data— 4-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 5-month*	Seasonally adjusted*	Moving average of seasonally adjusted data— 6-month*
	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)	(Ratio)
1971								
January	7.0	6.8	9.6	9.7	3.2	3.2	2.9	3.0
February	6.9	6.8	10.1	10.0	3.2	3.2	3.0	3.0
March	6.7	6.9	10.3	10.1	3.2	3.2	3.0	3.0
April	7.0	6.8	10.9	9.8	3.3	3.1	3.2	2.9
May	6.4	6.4	9.9	9.9	3.1	3.1	2.9	2.8
June	5.5	6.5	7.9	9.9	2.6	3.1	2.2	2.8
July	6.9	6.4	10.4	10.1	3.2	3.1	2.8	2.8
August	6.8	6.6	10.0	10.1	3.1	3.1	2.6	2.7
September	7.0	6.9	11.4	10.3	3.3	3.2	3.0	2.7
October	6.8	6.9	11.1	11.0	3.2	3.2	2.9	2.9
November	6.8	6.9	11.1	11.3	3.2	3.2	2.9	3.0
December	6.8	6.8	12.0	11.6	3.2	3.2	3.2	3.0
1972								
January	6.9	6.8	12.2	11.5	3.2	3.2	3.1	3.0
February	6.8	6.8	11.8	11.7	3.2	(NA)	3.0	3.1
March	6.8	p6.8	11.9	11.8	3.2		3.1	3.1
April	p6.7	(NA)	12.0	12.1	(NA)		3.1	3.1
May			11.9	12.1			3.1	3.1
June			13.5	12.3			3.3	3.2
July			12.3	12.5			3.1	3.2
August			13.0	12.6			3.3	3.2
September			12.6	12.7			3.2	3.2
October			12.4	12.5			3.2	3.3
November			12.3	12.4			3.2	3.3
December			12.5	12.2			3.3	3.2
1973								
January			11.6	12.1			3.1	3.2
February			12.1	12.1			3.2	3.3
March			12.0	12.0			3.2	3.2
April			12.4	12.2			3.3	3.2
May			11.7	12.3			3.1	3.2
June			13.2	12.5			3.5	3.3
July			12.2	12.6			3.2	3.4
August			13.4	12.6			3.6	3.3
September			12.9	r12.9			3.4	3.4
October			12.2	p12.9			3.2	(NA)
November			r13.4				3.4	
December			p13.2				(NA)	

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 12.)

TABLE

4**Defense-Related Balance of Payments Components**

Year and month	546. Transfers under U.S. military agency sales contracts (exports), BEA		547. Direct defense expenditures (imports), BEA, not seasonally adjusted*	696. U.S. Govt. cash receipts associated with military sales contracts, BEA	
	Not seasonally adjusted	Seasonally adjusted*		Not seasonally adjusted	Seasonally adjusted*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1971					
January .....	...	...	1,175	204	264
February	475	498	...	...	...
March .....	...	...	...	...	...
April .....	...	...	...	...	...
May	577	507	1,214	270	263
June .....	...	...	...	...	...
July .....	...	...	...	...	...
August	429	489	1,204	214	275
September .....	...	...	...	...	...
October .....	...	...	...	...	...
November	432	419	1,237	358	244
December .....	...	...	...	...	...
1972					
January .....	...	...	1,222	237	300
February	311	328	...	...	...
March .....	...	...	...	...	...
April .....	...	...	...	...	...
May	327	288	1,242	374	366
June .....	...	...	...	...	...
July .....	...	...	...	...	...
August	228	262	1,108	325	383
September .....	...	...	...	...	...
October .....	...	...	...	...	...
November	299	287	1,151	455	342
December .....	...	...	...	...	...
1973					
January .....	...	...	1,168	517	580
February	325	343	...	...	...
March .....	...	...	...	...	...
April .....	...	...	...	...	...
May	514	455	1,185	553	545
June .....	...	...	...	...	...
July .....	...	...	...	...	...
August	p466	p534	p1,110	p591	p649
September					
October					
November					
December					

NA=not available; p=preliminary; r=revised. *Indicates series shown in charts. (See page 13.)

Appendix A. SEASONAL ADJUSTMENT FACTORS

Series title	1973											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
MONTHLY SERIES												
Defense Department gross obligations incurred:												
617. Total ¹	103.8	88.0	91.2	94.1	85.0	139.4	104.9	100.9	102.6	104.2	90.5	94.5
619. Operations ¹	102.9	87.7	94.8	101.3	97.0	115.5	112.7	102.2	94.9	105.2	93.6	90.7
621. Procurement	102.8	87.4	80.3	78.1	68.1	180.9	65.2	77.4	142.5	107.9	92.6	117.4
623. Gross obligations incurred outside the Federal Government for national defense ¹	106.2	86.8	93.7	92.8	90.3	122.4	105.3	105.8	97.4	106.4	97.9	94.0
625. Defense Department military prime contract awards for work performed in the United States	91.3	84.0	89.2	75.1	76.9	179.0	110.7	97.3	103.3	105.5	81.7	106.2
Defense Department gross unpaid obligations outstanding: ²												
643. Total	102.7	101.2	99.0	97.4	93.6	98.0	98.7	100.7	102.0	103.2	102.1	101.1
644. Operations	106.2	100.2	95.2	93.9	90.0	89.6	97.1	104.9	104.7	111.6	106.3	100.1
645. Procurement	102.8	102.6	99.9	98.2	95.8	101.3	98.7	97.4	99.6	100.4	100.8	101.8
648. Manufacturers' new orders, defense products ³	93.8	103.6	89.6	91.4	69.7	90.5	181.1	90.5	108.6	107.8	86.3	117.1
653. Average weekly overtime hours, production workers, defense products industries ⁴ .....	.1	-.2	-.1	-.3	-.3	.0	-.3	.0	.2	.2	.3	.5
654. Accession rate, defense products industries ⁴	-.1	-.2	-.1	-.2	-.1	.9	.1	.3	.2	.0	-.3	-.6
655. Layoff rate, defense products industries ⁴ .....	.4	.3	.3	.1	-.2	-.3	-.2	-.1	-.1	.0	.0	-.2
657. Output of defense and space equipment ³	100.7	99.9	100.4	99.4	99.9	100.8	98.7	99.0	100.0	100.1	100.9	101.5
659. Manufacturers' inventories, defense products ³	98.7	100.1	101.5	101.8	101.9	100.5	100.3	99.3	98.2	100.1	99.6	98.6
661. Manufacturers' unfilled orders, defense products ³	101.0	101.6	100.7	99.8	97.5	95.8	100.8	100.0	100.6	101.3	100.0	100.8
Employment in defense products industries:												
670. Total	100.3	100.1	99.9	99.4	99.3	99.7	99.8	99.7	100.5	100.3	100.4	100.3
671. Production workers	100.5	100.2	99.8	99.2	99.0	99.5	99.4	99.5	100.8	100.5	100.9	100.6
673. Index of aggregate weekly man-hours, defense products industries	100.3	99.7	100.0	99.2	99.1	99.6	99.0	99.4	100.5	100.4	101.0	101.5
675. Index of aggregate weekly payrolls, production workers, defense products industries	100.8	99.5	100.0	98.3	98.5	98.7	97.3	98.7	101.1	100.6	102.3	103.9
Defense Department net outlays:												
680. Total, military functions and military assistance ¹	101.7	93.7	104.2	100.2	107.1	114.2	86.8	100.4	91.2	103.1	99.7	96.4
681. Operations ¹	99.4	94.4	97.9	103.0	102.6	118.0	91.9	102.1	93.6	100.4	98.7	96.2
682. Procurement ¹	96.0	92.7	113.9	94.4	104.8	111.6	99.2	94.0	95.0	101.3	99.7	96.3
683. Budget outlays for the national defense function ¹	101.2	92.8	104.7	99.4	106.1	114.5	91.5	98.9	91.4	103.3	98.3	97.6
685. Defense Department personnel compensation ¹	102.4	96.9	100.5	99.5	102.2	100.1	100.7	101.9	97.8	99.8	99.4	98.3
688. Manufacturers' shipments, defense products ³	88.0	96.8	99.1	100.4	98.8	106.2	95.8	100.3	102.8	98.6	102.5	109.9
QUARTERLY SERIES	IQ	IIQ	IIIQ		IVQ							
200. Gross national product ³	95.6		100.9		98.8							
264. Fed. Govt. purchases of goods and services, national defense ³	97.3		103.4		97.4							
546. Transfers under U.S. military agency sales contracts-exports ⁵	-17		39		-34							
Defense Department military prime contract awards:												
626. Aircraft	92.5		111.7		103.5							
627. Missile and space systems	83.4		80.8		127.2							
629. Weapons and ammunition	92.0		119.2		59.9							
630. Electronic and communications equipment	90.4		129.5		80.6							
631. Combat vehicles	77.0		121.1		117.1							
632. Other hard goods	88.3		134.0		67.5							
633. Soft goods	72.5		76.4		148.5							
634. Construction	90.8		176.6		66.9							
635. Services	64.9		93.5		135.7							
636. Under \$10,000	97.6		126.7		81.4							
637. Educational and nonprofit institutions	89.8		98.7		94.2							
640. Outside U.S.	81.9		86.8		155.2							
Aerospace industries:												
650. Manufacturers' new orders from the U.S. Government	90.5		78.1		131.3							
664. Manufacturers' unfilled orders from the U.S. Government	101.2		94.8		104.0							
689. Manufacturers' shipments to the U.S. Government	95.1		100.3		96.4							
696. U.S. Govt. cash receipts associated with military sales contracts ⁴	-63		8		-58							

NOTE: The seasonal adjustment factors presented in this table were computed using the techniques described in the Bureau of the Census Technical Paper No. 15, *The X-11 Variant of the Census Method II Seasonal Adjustment Program*.

Monthly data for Defense Department military prime contract awards by commodity category (series 626 to 640) have not been adjusted for seasonal variation. The series on direct defense expenditures-imports (series 547), Defense Department progress payments outstanding (series 666), and Defense Department manpower (series 677 and 678) contain no measurable seasonal variation. The series on job vacancy rate, defense products industries (series 656) contains too few observations to be seasonally adjusted.

¹Factors are products of seasonal and trading-day factors.

²Prior to 1972, data for gross unpaid obligations outstanding are not available for a number of months but these gaps were filled with averages of preceding and following months for purposes of estimating seasonal variation.

³These series have been adjusted by the source agencies. The factors shown here are implicit seasonal factors for the calendar year 1972 and are derived by dividing the seasonally unadjusted data by the seasonally adjusted data.

⁴These series have been seasonally adjusted using the additive version of the seasonal adjustment program. Seasonally adjusted data are derived by subtracting the adjustment factor from the unadjusted data. Seasonally adjusted data for other series are derived by dividing the seasonal factors into the unadjusted data.

⁵This series is the total of component series which have been adjusted separately by the source agency. The factors shown here are implicit seasonal factors for the calendar year 1972 and are derived by subtracting the seasonally adjusted data from the seasonally unadjusted data.

Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY

Part 1. Monthly Series

Series title	Period covered	\bar{O}	\bar{C}_I	\bar{T}	\bar{C}	\bar{T}/\bar{C}	MCD	Average duration of run (ADR)	
								CI	MCD
Defense Department gross obligations incurred:									
617. Total	Jan. '57-Mar. '72 ..	19.03	7.81	7.70	0.81	9.47	6	1.57	2.46
619. Operations	July '59-Mar. '72 ..	8.03	2.72	2.61	.70	3.70	4	1.77	3.04
621. Procurement	Jan. '57-Mar. '72 ..	45.56	22.94	22.77	1.84	12.40	6	1.49	2.16
623. Gross obligations incurred outside the Federal Government for national defense	July '63-Mar. '72 ..	(NA)	6.41	6.27	.81	7.74	6	1.51	2.68
625. Defense Department military prime contract awards for work performed in the United States, total	Jan. '57-Mar. '72 ..	33.99	15.74	15.60	1.37	11.36	6	1.37	2.06
Defense Department gross unpaid obligations outstanding:									
643. Total	Jan. '57-Mar. '72 ..	2.06	1.42	.91	.96	.95	1	2.84	2.84
644. Operations	Jan. '67-Mar. '72 ..	5.20	2.58	2.42	.82	2.96	3	1.72	4.29
645. Procurement	Jan. '67-Mar. '72 ..	2.58	1.88	1.16	1.27	.91	1	2.95	2.95
Manufacturers' new orders:									
647. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	15.11	14.89	.97	15.32	6	1.58	2.33
648. Defense products	Feb. '68-Mar. '72 ..	22.24	17.00	16.75	1.50	11.16	6	1.40	2.32
*653. Average weekly overtime hours, production workers, defense products industry (hours)	Jan. '58-Mar. '72 ..	.21	.14	.13	.05	2.76	3	2.21	3.43
*654. Accession rate, defense products industries (per 100 employees)	Jan. '58-Mar. '72 ..	.39	.17	.16	.05	3.01	4	2.27	3.55
*655. Layoff rate, defense products industries (per 100 employees)	Jan. '58-Mar. '72 ..	.17	.14	.14	.04	3.18	4	1.91	3.55
*656. Job vacancy rate, defense products industries (percent)①	Apr. '69-Mar. '72 ..	.09	(NA)	.08	.05	1.71	3	2.69	5.50
657. Output of defense and space equipment	Jan. '54-Sep. '72 ..	(NA)	1.04	.47	.89	.53	1	5.51	5.51
Manufacturers' inventories:									
658. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	1.04	.52	.85	.62	1	2.80	2.80
659. Defense products	Jan. '68-Mar. '72 ..	1.90	1.90	1.39	1.36	1.02	2	2.63	4.90
Manufacturers' unfilled orders:									
660. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	1.23	.90	.83	1.09	2	2.76	3.42
661. Defense products	Jan. '68-Mar. '72 ..	1.99	1.64	1.06	1.05	1.01	2	3.57	4.90
Employment in defense products industries:									
670. Total	Jan. '58-Mar. '72 ..	.80	.73	.26	.66	.40	1	6.07	6.07
671. Production workers	Jan. '58-Mar. '72 ..	1.08	.92	.46	.74	.61	1	3.78	3.78
673. Index of aggregate weekly man-hours, defense products industries	Jan. '58-Mar. '72 ..	.94	.80	.36	.68	.53	1	4.86	4.86
675. Index of aggregate weekly payrolls, production workers, defense products industries	Jan. '58-Mar. '72 ..	1.58	1.08	.66	.81	.82	1	3.15	3.15
Defense Department manpower:									
677. Military②	Jan. '57-Mar. '72 ..	.67	(NA)	.27	.60	.45	1	3.96	3.96
678. Civilian③	Jan. '57-Mar. '72 ..	.54	(NA)	.33	.44	.75	1	4.44	4.44
Defense Department net outlays:									
680. Total, military functions and military assistance	Jan. '57-Mar. '72 ..	8.48	3.82	3.73	.79	4.70	6	1.73	3.11
681. Operations	July '59-Mar. '72 ..	7.84	3.51	3.26	.77	4.25	5	1.58	2.47
682. Procurement	Jan. '57-Mar. '72 ..	14.27	11.62	11.51	1.59	7.25	6	1.57	2.72
683. Budget outlays for the national defense function	Jan. '57-Mar. '72 ..	(NA)	3.80	3.71	.71	5.23	6	1.64	3.05
685. Defense Department personnel compensation	Jan. '67-Mar. '72 ..	2.47	1.87	1.58	.87	1.80	3	2.48	4.62
Manufacturers' shipments:									
687. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	2.69	2.49	.87	2.85	3	1.64	3.40
688. Defense products	Jan. '68-Mar. '72 ..	7.95	4.57	4.63	.94	4.91	5	1.47	3.29
Ratio, manufacturers' unfilled orders to shipments:									
690. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	2.95	2.71	.96	2.82	4	1.90	3.81
691. Defense products	Jan. '68-Mar. '72 ..	9.30	5.11	5.04	.86	5.83	6	1.79	2.81
Ratio, manufacturers' inventories to shipments:									
692. Defense products industries	Jan. '57-Mar. '72 ..	(NA)	2.84	2.90	.72	4.01	5	2.46	5.74
693. Defense products	Jan. '68-Mar. '72 ..	9.58	5.19	5.29	.84	6.26	6	1.79	3.21

NA = not available.

*Measures for these series are based on actual changes rather than percent changes (see definition below). ① indicates measures are based on unadjusted data.

BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 1

The measures in this appendix provide a historical perspective for interpreting current changes in each series. They are derived using the Census X-11 seasonal adjustment program. Brief definitions of the measures are given below; more complete definitions appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from *Journal of Business*, October 1957).

" \bar{O} " is the average month-to-month percent change, without regard to sign, in the original unadjusted series. (See final paragraph below for exceptions to these definitions.)

" \bar{C}_I " is the same for the seasonally adjusted series.

" \bar{C} " is the same for the short-term trend, which is a smooth, flexible moving average of the seasonally adjusted series.

" \bar{T} " is the same for the irregular component, which is obtained by dividing the seasonally adjusted series by the short-term trend.

" \bar{T}/\bar{C} " measures the relative smoothness (small values) or irregularity (large values) of the seasonally adjusted series. It is the ratio of the average monthly percent change (without regard to sign) in the irregular component to the average monthly percent change (without regard to sign) in the short-term trend.

"MCD" (months for cyclical dominance) estimates the number of months required for the short-term trend to dominate the irregular component. Average percent changes are computed for spans of from 1 to 12 months for both the irregular component and the short-term trend. MCD is the shortest span of months for which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All MCD's greater than "5" are shown as "6".

Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY—Continued

"Average Duration of Run" (ADR) is another measure of smoothness and is equal to the average number of consecutive monthly changes in the same direction in any series of observations. When there is no change between two observations, a change in the same direction as the preceding change is assumed. The ADR is shown for the seasonally adjusted series (CI) and the MCD curve, which is a moving average (with the number of terms equal to MCD) of the seasonally adjusted series. A comparison of these measures with the expected ADR of a random series indicates whether the changes approximate those of a random series. In a random series, the expected ADR is 1.5 and the actual values fall between 1.36 and 1.75 about 95 percent of the time. For a moving average of a random series, the expected ADR is 2.

Measures for series identified with an asterisk (*) are computed by an additive method. This method is used for series with zero or negative data, series which could approach zero, and series expressed in percent. In this method, the measures are defined the same as above except for two differences: (1) the measures are based on actual month-to-month changes (rather than percent changes) and (2) the irregular component is obtained by subtracting the short-term trend from the seasonally adjusted series. The average changes shown above for the components of such a series are in the same unit of measure as the series itself. The unit is indicated in the series title.

Part 2. Quarterly Series

Series title	Period covered	\bar{o}	\bar{C}_I	\bar{T}	\bar{C}	T/C	QCD	Average duration of run (ADR)	
								CI	QCD
200. Gross national product	10 '57-IQ '72	5.74	1.69	0.33	1.61	0.21	1	8.57	8.57
264. Federal Government purchases of goods and services, national defense	10 '57-IQ '72	6.20	2.06	.76	1.73	.44	1	3.16	3.16
*546. Transfers under U.S. military agency sales contracts—exports (mil. dol.)	10 '60-IQ '72	66.79	45.21	34.88	21.28	1.64	2	1.50	2.14
*547. Direct defense expenditures—imports (mil. dol.) @	10 '60-IQ '72	31.29	(NA)	21.52	19.61	1.10	2	1.92	2.76
*613. National defense purchases as a percent of GNP (percent)	10 '57-IQ '72 . . . . .	.33	.18	.08	.16	.48	1	5.45	5.45
650. Manufacturers' new orders from the U.S. Government, aerospace industries	10 '61-IQ '72	(NA)	17.36	15.66	5.47	2.86	3	1.33	1.83
664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries	10 '61-IQ '72	(NA)	3.78	2.23	2.60	.86	1	2.75	2.75
666. Defense Department progress payments outstanding @	10 '57-IQ '72	4.96	(NA)	2.32	4.47	.52	1	2.40	2.40
689. Manufacturers' shipments to the U.S. Government, aerospace industries	10 '61-IQ '72	(NA)	3.77	2.69	2.13	1.26	2	1.76	2.39
*696. U.S. Government cash receipts associated with military sales contracts (million dollars)	10 '60-IQ '72	100.92	71.44	52.25	36.54	1.43	2	1.71	2.24

NA = not available.

*Measures for these series are based on actual changes rather than percent changes (see definition below). @ indicates measures are based on unadjusted data.

BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 2

These measures are defined the same as those in part 1 except that they are based on quarter-to-quarter percent changes. For example, \bar{C}_I is the average quarter-to-quarter percent change (without regard to sign) in the seasonally adjusted series.

In deriving "QCD" (quarters for cyclical dominance), average percent changes are computed for spans of from one to four quarters for the irregular component and the short-term trend. QCD is the shortest span of quarters for

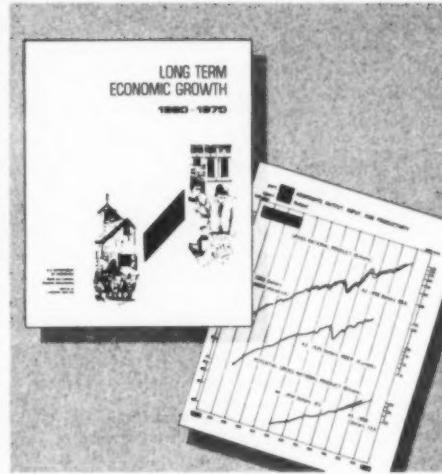
which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All QCD's greater than "3" are shown as "4". The "Average Duration of Run" (ADR) measures are also expressed in quarters.

As in part 1, measures for series identified with an asterisk (*) are computed by an additive method. This method is the same as that used for the monthly series except for the use of quarterly data rather than monthly.

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